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PEABODY JOURNAL OF EDUCATION

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A PROGRAM OF HIGH SCHOOL SUPERVISION

CHAS. W. KNUDSEN
George Peabody College for Teachers

Introduction. The tendency to neglect the supervision of teaching is strikingly apparent in a very large number of American high schools. This fact is borne out by the observation of those who have had opportunity to see a great deal of high-school teaching and by studies which have dealt with the use that high-school principals make of their time. In very small high schools, supervision by principals is almost impossible because of the heavy teaching loads which they carry; in very large high schools, the same is true because of the administrative burden of the principals. There are, however, a large number of high schools in charge of principals whose teaching loads and whose administrative duties do not preclude the possibility of devoting a considerable portion of their time to supervision. Principals of these high schools have time for supervision but confine their supervisory efforts to the perfunctory visitation of classes, apparently with the idea, as one writer puts it, "that the mere presence of their observing faces in a classroom will inspire and improve instruction."[1]

Despite a large volume of accessible literature in the subject of supervision, principals of high schools have not seen fit to make use of it as an aid in their work either because of its inappropriateness or because of indifference to its value. It is probably true that many principals lack a knowledge of suitable means for securing data about teaching which will serve as a basis for evaluating instruction and at the same time serve as a basis for suggesting improvements in teaching. There is, moreover, no simple means of securing

[1]Trabue, M. R. "The Activities in Which Principals Actually Engage." The First Yearbook of the National Conference on Educational Method. Teachers College, Bureau of Publications, 1928, p. 130.

data for this dual purpose. Although rating scales are often suggested as devices for the evaluation of instruction, many of them serve no useful supervisory purpose for the reason that their use emphasizes the formulation of judgments about teacher traits over which teachers themselves exercise little or no control. It is of passing interest only to find that a teacher has been ranked *B*, or *good*, or even that her personality is better than the worst the principal has ever known. A genuine supervisor's purpose in evaluating a teacher's work is to gain a point of vantage from which to make recommendations for improvement of teaching to the end that a good teacher may become a better teacher, and that a poor teacher may not fail entirely.

The requirements for a practical plan of supervision. It is advisable, of course, for a principal who decides to inaugurate a program of supervision in the high school to choose the *best* plan. In the total absence of evidence to indicate which one of many possible plans of supervision is best, he will probably choose a plan which has been tried elsewhere with success, or one which, for logical reasons, appears to be workable in his own school. The following requirements are suggested as constituting a sort of pattern by which a practical plan of supervision may be formulated.

1. The plan must be one that can be used by principals now in service.
2. It will have but one aim, namely, the improvement of teaching.
3. It will make possible the collection of data upon which a supervisor may base suggestions for the improvement of teaching.
4. It will provide for the collection of data about teaching over which teachers have control.

A suggested plan. The following discussion briefly describes a program of high-school supervision which was inaugurated and directed in the ten high schools of Webster Parish, Louisiana, during the school year 1928-9. No attempt is made to describe the method of determining whether improvement in teaching resulted from use of the plan. Enough evidence of improvement in teaching was secured, however, to warrant a recommendation of the plan to other high schools. The main features of the plan are as follows:

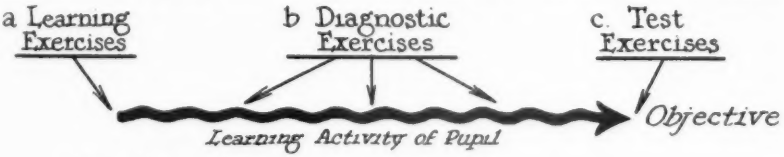
1. Secure data on which to evaluate teaching by
   a. An analysis of teachers' questions. (Learning exercise report.)
   b. Securing a measure of a teacher's ability to control the attention of her class. (Group-control report.)
   c. The use of a special form for recording facts and judgments about recitations in terms of both teacher and pupil activity. (Special observer's report.)
2. Hold a conference with the teacher in order to make suggestions for the improvement of teaching when the data secured in (1) reveals ineffective teaching.
3. Secure data after the conference by the methods suggested in (1) in order to determine whether improvement has been made.
4. To continue this cycle of "securing information about teaching—conference—securing information on which to base conclusions relative to improvement," energetically and sympathetically until both teachers and principal have evidence that improvement in teaching has been made.

A. *Analysis of learning exercises.* The prevailing method of high-school teaching is one in which pupils are asked to respond to requests made by

a teacher, who, it is assumed, has a good idea of the kinds of requests she should make in order to furnish a basis for learning activity essential to the acquisition of habits, knowledge, ideals, and attitudes specified as objectives. Such teaching is systematic rather than opportunistic.

In systematic teaching a teacher assumes responsibility for directing pupils in learning activity which is appropriate to desirable objectives. A large share of a pupil's learning activity is initiated by requesting him to do something definite. Requests to do may be direct as is the case when a teacher says, "Read the text from page 47 to page 52 for the purpose of learning how electricity is measured," or they may be indirect as in the case when a teacher makes an explanation to which the pupil gives attention. In the latter case, there is an indirect or implied request to trace the teacher's thinking. An indirect request, such as the one just illustrated, may be as potent in initiating and stimulating learning activity as a direct request. Requests of the types described are called "learning exercises." After a pupil's learning activity has been initiated and directed toward the acquisition of a specified objective (or objectives), a teacher may ask questions of the pupil or make requests which are designed for the purpose of helping him to discover and define his difficulties, or to help him out of his difficulties. Exercises of this sort are used for diagnostic purposes. There is also a third type of exercise which a teacher uses in order to secure a basis on which to evaluate a pupil's achievement. Exercises of this type may be designated as "test exercises."

The following diagram will illustrate the use of the three types of exercises.



a. Learning exercises:
   1. initiate learning activity
   2. form a basis for learning activity
   3. direct learning activity
b. Diagnostic exercises used to:
   1. locate or define a difficulty for a pupil
   2. help the pupil out of his difficulty
c. Test exercises used for the evaluation of achievement.

Much may be learned about teaching by analyzing a report of the above types of exercises which a teacher uses. (See Form I) To secure a report of this kind, a principal visits a teacher and records all of the questions which the teacher asks. Except in the case of teachers who ask questions at a very rapid rate, a supervisor can do this without great difficulty. After the record has been secured it should be analyzed by both teacher and supervisor according to the following outline.

(1) Classify questions as test, learning, and diagnostic exercises: (There will be instances in which remarks by the teacher will not fall in either class, as for example, in the case of a repetition of a pupil's response.)

(2) Estimate whether learning exercises are
a. compatible with a teacher's objectives
b. intelligible to pupils
c. difficult enough to serve as a challenge to pupils
d. used as a basis for learning activity in class as well as out of class
e. related to relatively large units of learning
f. formulated so as to secure reflective thinking on the part of pupils as well as the repetition of learned responses.
g. adapted to individual differences (either by differentiated assignments or by directing easier exercises to weaker pupils)
h. providing for experiences in which there is a dominant element of feeling; (essential to the acquisition of attitudes and ideals).

The objection may be raised that this method of collecting data makes it necessary for the supervisor to write while visiting a class, and that writing in a teacher's presence is disturbing to a teacher. Experience indicates that teachers do not object to an observer writing in a class if they know that the records made by the observer are impersonal and if they know, too, that what is written will be shown to the teacher observed.

By leaving a wide margin at the left of the sheet on which a teacher's questions are recorded, a supervisor may indicate the time of beginning a recitation, the time taken for review, assignment, distribution of material, and so forth. If a pupil gives evidence of a poor speech habit, his statement may be recorded. Again if the teacher accepts an incorrect response from a pupil as correct, that fact may be noted. It is granted that a report secured in this manner is not as complete as a stenographic report. On the other hand, it is much more practical as a supervisory device.

B. *Group control.* The purpose of placing pupils under the direction of a teacher is that she may direct their learning activity. To realize this purpose effectively, a teacher must control the attention of the class. A principal may estimate a teacher's group control by using a method proposed by Morrison.[1] A self-explanatory form for making an estimate of group control is given below. (See Form II.)

The following table illustrates the variation in the estimates of a number of observers who were relatively inexperienced in making estimates of group control. They were, however, widely experienced in observing classroom instruction. Although the variation between the estimates of two judges of the same teacher's work is not as great as one per cent in any of the cases cited, the accuracy of this method of estimating group control is not its main virtue. As a matter of fact, pupils often have a way of paying attention when

TABLE I.

VARIATIONS IN ESTIMATES OF TEACHERS' GROUP CONTROL

	Judge 1	Judge 2	Difference
Teacher A	98.5%	98.9%	0.4%
Teacher B	96.6	97.4	0.8
Teacher C	98.2	97.3	0.9
Teacher D	98.1	98.9	0.8
Teacher E	98.5	98.0	0.5

[1]Morrison, H. C. The Practice of Teaching in the Secondary School. University of Chicago Press, 1927. Chapter VIII.

a supervisor is present that is not at all characteristic when the supervisor is absent. By use of Morrison's method for estimating group control one may easily direct a teacher's attention to one phase of her directive effort without success in which all other phases are apt to be ineffective. It often happens that a supervisor notes poor group control at the beginning and at the end of a class period, which if called to a teacher's attention serves to emphasize the necessity of making a more vigorous beginning of a recitation, and of carrying on with vigor until the end of the class period.

C. *Special observer's report.* The use of Form III which is included below enables a principal to secure a record of a number of significant facts about a teacher's work. In addition, it enables an observer to secure an estimate of the quality of pupil responses to questions, and to secure a record of a number of other pertinent facts about pupil activity. The key at the bottom of the form is self-explanatory. The use of the symbols suggested enables an observer to record easily and quickly in the appropriate spaces the facts and judgments indicated in the key. This device is particularly helpful in studying the distribution of a teacher's questions among the members of a class.

Overcoming faults in teaching. The use of the proposed plan will enable a supervisor and his teachers to discover and correct such faults as the following:

a. Waste of time in beginning and closing a class period.
b. Over-use of the class period as a testing period.
c. Habitual neglect in securing participation of certain pupils in the recitation.
d. Over-use of fact questions and neglect of thought questions.
e. Failure to use at least a part of the class period for directed learning.
f. Habit of repeating pupil's responses.
g. Asking an excessive number of questions.
h. Failure to formulate objectives.
i. Failure to formulate appropriate learning exercises.
j. Over-use of some form of pupil activity, e. g., "I think" responses when the pupil has little or nothing to express.
k. Failure to make definite assignments.

Once a principal has definitely located faults in the work of his teachers he is in a favorable position to direct his supervisory effort toward a correction of such faults. In other words, the correction of specific faults which have been definitely located for the teacher, makes possible a definite supervisory program.

The nature of the data. Quite obviously, there is variation in the objectivity of the above methods for securing data about a teacher's work. Furthermore, there are data about the effectiveness of teaching which the proposed plan does not take into account. For example, the evaluation of pupil achievement by means of standardized tests is not mentioned, although to the extent that valid standardized tests are available, they may be used to advantage in estimating the effectiveness of teaching. The data secured may be classified ac-

cording to the relative objectivity of relative subjectivity or the methods used to secure them as follows:

Objective:

- Time of beginning recitation
- Time of dismissing class
- Time devoted to distribution of material, passing to board, etc.
- Time devoted to drill, assignment, development, etc.
- Number of questions asked
- Number of questions asked of each pupil
- Number of questions asked by pupils and names of pupils asking them
- Number of volunteer responses and pupils making them
- Number and names of pupils called on who made no response
- Actual statements of questions asked
- Actual statements of assignments
- Actual statements of errors made in responses
- Number of times a teacher repeats a pupil's response
- Number of times a teacher allows errors in responses to go unnoticed

Subjective:

- Nature of volunteered responses
- Quality of responses to questions
- Number and names of pupils who misbehaved
- Number and names of pupils unprepared
- Number of test, learning and diagnostic exercises
- Compatibility of learning exercises with objectives
- Compatibility of test exercises with objectives
- Extent to which learning exercises conform to criteria enumerated above

Many of the more significant data which relate to a teacher's work are to be found in the list characterized as "subjective." This list includes judgments which for the most part are based on objectively determined facts. There is little likelihood that serious questions will be raised concerning the accuracy of the facts on which these judgments are based. Questions may be raised, however, about the interpretations which one gives to the facts collected.

The program proposed in this article does not relieve principals of responsibility for formulating judgments about a teacher's work, but it does emphasize the necessity for relying less on general impressions about teaching and more on an analysis of certain significant factors that enter into the direction of learning.

FORM I.

REPORT OF LEARNING EXERCISES

Teacher_____ School_____

Subject_____ Grade_____ Date_____ Observer_____

Notes	Assignment of previous day
	Learning exercises of above date

FORM II.

Supervisor's Group Control Record Sheet
(after H. C. Morrison)

Directions

1. Furnish information called for below.
2. Take a seat at front of room and at one side where you can command a view of all pupils in the class.
3. With watch before you, count all those in attention during the first minute of your observation. Record the number in the spaces provided below. (Note: If a class is relatively attentive, count pupils who are inattentive and subtract from number in class to secure the number paying attention. If a class is relatively inattentive, count those who are paying attention and record.)
4. Make a similar record for each minute of the observation period.
5. Add the numbers secured as directed in (3) above.
6. Multiply the number in class by the number of minutes spent in observation.
7. Divide the number obtained in (5) by the number obtained in (6) to get the per cent of inattention which is an indication of the extent to which the teacher has control of the group.

School_____ Teacher_____ Date_____

Subject_____ Period begins_____ Period ends_____

Number in class_____

1_____	16_____	31_____
2_____	17_____	32_____
3_____	18_____	33_____
4_____	19_____	34_____
5_____	20_____	35_____
6_____	21_____	36_____
7_____	22_____	37_____
8_____	23_____	38_____
9_____	24_____	39_____
10_____	25_____	40_____
11_____	26_____	41_____
12_____	27_____	42_____
13_____	28_____	43_____
14_____	29_____	44_____
15_____	30_____	45_____

Computations

Actual pupil-minutes attention
_____(5)

Possible pupil-minutes attention
_____(6)

Estimate of group control
(5) ÷ (6) _____

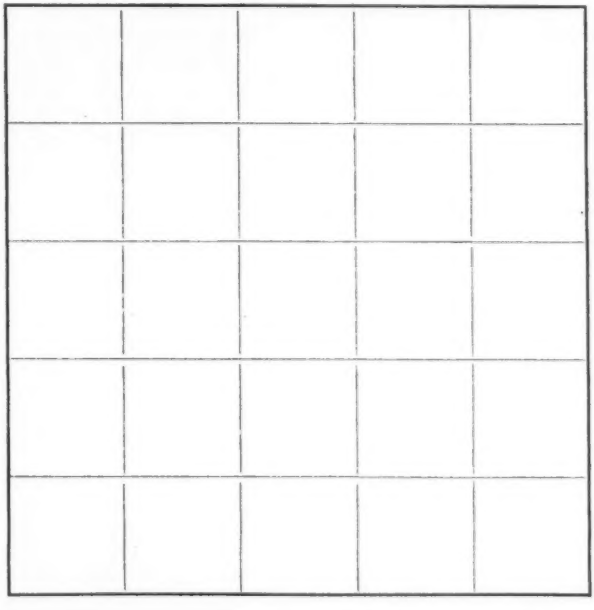
FORM III.

REPORT OF OBSERVATION

School_____ Teacher_____

Subject_____ Time_____ Date_____

(Squares denote seating positions of pupils)



V	volunteered a relevant response	?	pupil asked a question
V-b	volunteered an irrelevant response, bluff	X	misbehaved
C-	called on, no response, apparently could make none	U	unprepared
C3	called on, poor response	i	inattentive
C2	called on, fair response	T	teacher gave help during study period
C1	called on, good response		
c-i	called on, no response, inattentive to question		

THE USE MADE OF THE DEMONSTRATION SCHOOL BY THE COLLEGE TEACHERS OF THE NORTH TEXAS STATE TEACHERS COLLEGE

L. A. SHARP
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PURPOSE OF THE STUDY

This study was undertaken with a threefold purpose: First, to discover the extent to which the college teachers were using the Demonstration School; second, to discover their interest in using the Demonstration School; and third, to discover, if possible, how the Demonstration School could be made to function so as to render the maximum service to the college teachers and their pupils.

HOW THE STUDY WAS MADE

The data which will serve as the basis of this study was secured through a questionnaire submitted to the college teachers of the North Texas State Teachers College. The following is the questionnaire:

Please answer the following questionnaire and return it to my box by Monday, May 21st. R. L. Marquis, President.

Answer the first part of each question in the questionnaire by underscoring "yes" or "no." Underscore the word that you expect to be your answer.

1. Has the Demonstration School been of any value to you in giving college courses during the past year? Yes No
   How?
2. Have you used the Demonstration School in connection with your college courses during the past year? Yes No
   How?
3. Would the pupils have suffered any loss or handicap in your courses during the past year if the college had not maintained a Demonstration School? Yes No
   How?
4. Are you planning to use the Demonstration School in any way in connection with your classes next year? Yes No
   How?
5. Do you see any way the Demonstration School can be of service to you in your teaching? Yes No
   How?
6. Do you have any desire to use the Demonstration School in connection with your college teaching? Yes No
   How?
7. Is there any excuse for courses being offered in a Teachers College which do not have contact with the Demonstration School? Yes No
   Why?
8. How can the Demonstration School best serve you?
9. What is your conception of the function and purposes of a Demonstration School?
10. In what department are you teaching?_____

Name_____

The above questionnaire was submitted to eighty-two teachers. Sixty-five of this number, or less than eighty per cent, replied. The possibilities are that the seventeen who did not reply have not used the Demonstration School, and rather than say so, refrained from answering the questionnaire. Many of the replies received were fragmentary. Some answered every question and some only part of the questions. The questions in the questionnaire overlap somewhat. It seems impossible to eliminate slight overlapping and at the same time be sure to secure data desired on every phase of the question. Judging from the replies received, there was an overlapping for some individuals, while others had clear-cut ideas separate and distinct for each question. To some, one question meant the same as the one previously stated, to others, each question was a distinct situation separate and apart from any other, and called for a different response.

HOW THE DATA WERE TABULATED AND TREATED

It will be observed that the first seven questions called for a "yes" or "no" answer and in addition, a "how", "what" or "why" answer. The eighth and ninth questions called for "how" and "what" answers only.

The "yes" and "no" answers were tabulated according to the number of each. The "how", "what" and "why" answers were tabulated according to meaning. The answers were not listed verbatim but instead were interpreted and given in as concise a statement as possible. By doing this many replies, which were worded differently, but meant the same thing, could be tabulated under the same heading.

The data were tabulated question by question and will be discussed in like manner. This, of course, will mean more or less overlapping but a resume at the close definitely points out the findings.[1]

PRESENTATION AND INTERPRETATION OF DATA

QUESTION 1. Has the Demonstration School been of any value to you in giving college courses during the past year? How? Sixty-five replied to question one. Of this number, thirty-three or about fifty per cent of the college teachers feel that the Demonstration School has been of value to them in the teaching of their college classes and thirty-two or about fifty per cent feel that it has not been of value to them.

The replies to the second part of the question indicate that it has been of value to them by being a laboratory where the college pupils have seen demonstrated the practical application and the practical value of the subject-matter they have learned, where they have actually gained by practice in their chosen profession, and where they have been stimulated to do better work in their college classes.

[1]There were from three to ten replies to each question which had to be tabulated as not pertinent.

QUESTION 2. Have you used the Demonstration School in connection with your college courses during the past year? How? Sixty-five replied to question two. Of this number thirty or about forty-six per cent of the teachers who answered used the Demonstration School during the past year, while thirty-five or fifty-four per cent did not use it. The answers to "how" show that it was used as a laboratory in which the college pupils observed teaching, did some teaching, applied some of the information that they had acquired in college courses, and saw demonstrated some of the principles, theories, techniques, devices, and subject-matter which they had been taught to use.

QUESTION 3. Would the pupils have suffered any loss or handicap in your courses during the past year if the college had not maintained a Demonstration School? What? Sixty-five replied to question three. Of this number thirty or about forty-six per cent feel that their pupils would have suffered a loss or a handicap had the college not maintained a Demonstration School; thirty-five or fifty-four per cent of them feel that their pupils would have suffered no loss or handicap. The loss or handicap suffered would have been a lack of opportunity to make that application which is so essential in all teaching, that use of knowledge which insures its mastery and makes it a part of one.

QUESTION 4. Are you planning to use the Demonstration School in any way in connection with your classes next year? How? Thirty-five or about fifty-four per cent of the sixty-five college teachers replying to question four are planning to use the Demonstration School in connection with their college classes next year. They expect to use it as a laboratory where their pupils will observe demonstrations, where they will make some discoveries for themselves, where they will do practice teaching, and where the college teachers will carry on some experiments in the field of teaching. It was interesting to note in the replies that two said that they do not know just what to plan and that five others gave answers which were not pertinent to the question.

QUESTION 5. Do you see any way the Demonstration School can be of service to you in your teaching? How? Of the sixty-five who replied to question five, forty-three or about sixty-six per cent, recognize how the Demonstration School can serve them, while twenty-two or thirty-four per cent see no need for it in connection with their work. Many ways in which the Demonstration School can render service were enumerated. However, these may be summarized under three, namely: an educational laboratory in which the teachers in the various college departments may take their pupils to observe the very best that is to be seen in the way of equipment, devices, teaching, and the application of subject-matter; a motive to cause college pupils to become more interested in their work; and by having a critic teacher discuss before the class the problem of teaching English.

QUESTION 6. Do you have any desire to use the Demonstration School in connection with your college teaching? How? Forty-two or about sixty-

five per cent of the sixty-five replying to question six say that they desire to use the Demonstration School in connection with their college teaching. How they wish to use it may be summarized under the head of laboratory. All who answered the question in the affirmative indicate that they desire to use it as a laboratory for either observation, demonstration or experimental purposes.

QUESTION 7. Is there any excuse for courses being offered in a Teachers College which do not have contact with the Demonstration School? Why? To question seven, sixty-two replied. Of that number, fifty-one replied "yes" and eleven "no." To the question "Why?" fifty-three replies were received. These replies seem to come from three distinct groups. The first group is composed of those who feel and see no need for a Demonstration School in giving courses. The second group seemed to misinterpret the question or else have no conception of its true meaning. Judging from their replies, "contact with the Demonstration School" means taking subject-matter courses in the Demonstration School. The third group is composed of those who feel that the Demonstration School should be the laboratory, or testing ground for the college. In this laboratory they would have the practical use and the application of all subject-matter tested and demonstrated.

QUESTION 8. How can the Demonstration School best serve you? Thirty-five of the fifty-two teachers replying to question eight indicate that the Demonstration School can best serve them by being a laboratory where their college pupils may observe expert teaching, may observe the use of methods, may observe the use of materials, may study educational problems, and may do practice teaching. The replies of the others are so varied that they can hardly be summarized. It is interesting to note, however, that three teachers feel that the Demonstration School can best serve them by being a college preparatory school where a high academic standard is maintained.

QUESTION 9. What is your conception of the function and purposes of a Demonstration School? The data secured by question nine tend to show that practically all of the teachers conceive the function of the Demonstration School to be that of a laboratory which is used for demonstration and observation purposes and where the college pupils have an opportunity to demonstrate their ability to make practical applications of the content they have learned. One teacher feels that the function of the Demonstration School is to be a model for the best city schools, and one feels that its function is to prepare pupils for college.

SUMMARY

The data collected in this study tend to show that about fifty per cent of the teachers who replied are using the Demonstration School, and that the other fifty per cent are not. They further tend to show that about sixty-five per cent want to use the Demonstration School and that thirty-five per cent have no desire to use it.

Those who desire to use the Demonstration School want to use it as an educational laboratory for observation, demonstration and experimental purposes.

More than eighty-two per cent of those who replied see and feel no need for the Demonstration School in giving content courses. Since most of their courses are content courses, one might infer that they see very little need for the college to maintain a Demonstration School.

If a further observation may be allowed, it would be that these data tend to show that in the minds of the teachers who replied to this questionnaire, there is no difference between a Teachers College and a Liberal Arts College so far as the teaching of subject-matter is concerned. In their minds regardless of whether an individual will be a teacher, a lawyer, a physician, an engineer, a merchant, or a banker, he needs the same subject-matter taught in the same way. If this is true, then surely the name "Teachers College" is a misnomer.

ENTER THE HAPPY CHILD

BERT ROLLER
George Peabody College for Teachers

The modernists in childhood education and child poetry are still inclined to claim that the portrayal of the real child in poetry is a product of this age alone. William Blake, they say, gave us the "merry" child, full of vitality, but more an elfin than a real person; Christina Rossetti, although she possessed but little reality, was matchless in her pictures of the decorousness and delicacy of small girls; the Taylor sisters are passed over as didactic pedagogues who were too full of morals; so, too, are Charles and Mary Lamb; Alice and Phoebe Cary are dismissed as impossible sentimentalists, and Watts as a dreary preacher. Swinburne, they claim, was not a poet of childhood, but a lyrist who found ecstasy in his wonder over the bodies and movements of small children. Even "The Barefoot Boy" is now seen as the attitudinizing reminiscence of old age.

Stevenson, Field, Riley, Sherman, the contemporary Walter de la Mare, Elizabeth Madox Roberts, Rose Fyleman, A. A. Milne, and Dorothy Aldis are, so they say, the real poets of childhood. In them we do not have "set" types, but the very heart and soul of children. They write, with a few notable exceptions, without either sentimentality or moralizing. Their children play, dream, or imagine strange things in strange but normal ways. They can be as vernacular, if necessary, as *Huck Finn* or as mystical as Wordsworth's *Lucy*.

The truth is that this modern child has existed for many generations in English and American poetry. Often he was created by an author who was in no sense a "child poet." He was dressed differently and, because of the time in which he lived, acted differently. The youngster in Dorothy Aldis' poem who was afraid to pull the stopper out of the bathtub for fear of going with the water through the hole, is no more real or more quaintly naïve than Chaucer's school urchin of the *Prioresse's Tale*, or Anna Maria Wells' 1830 "Anna." Miss Roberts' boy who puzzled so desperately over a worm in his hole, and *Christopher Robin*, are no finer interpretations than N. P. Willis' "The Torn Hat." The sick-a-bed, precocious boy of *A Child's Garden of Verses* is presented with no more beautiful psychology than is Whitman's child who went forth. The dress changes, but the poet and the child remain the same. One poet sees the mystic in childhood, another the quaintness, another the pathos.

There is little in contemporary poetry on childhood that is entirely new. Two poems by Mary Mapes Dodge, for example, are so similar to Milne that, if read with the verses found in *When We Were Very Young* or *Now We Are Six*, it would be almost impossible to detect which is Milne and which is Dodge. They are "Wouldn't and Would" and "Little Whimpy." Despite the fact that they are of the same *genre* and tone as the *Christopher Robin* poems, they really appeared a half century earlier.

"I wouldn't be a growler, I wouldn't be a bear:
I wouldnt be an owlet, always on a stare:
I wouldn't be a goose, nor a peacock full of pride,
But I would be a big boy, with a pocket on each side."

We have more poetry on childhood now, and more variety, but not better poetry. There is more cleverness, and perhaps more knowledge, but there is less profundity. "Moral" poetry, fortunately, seems to have gone, but it has been succeeded by a shallow flippancy.

The playing, happy, healthy child, depicted without moral instruction or religious didacticism, did not appear for the first time in full book form in *When We Were Very Young*, as so many of the reviewers seemed to think. The credit for that contribution, if we omit the few poems on children in Blake's 1789 *Songs of Innocence*, should go to a quiet, unpretentious Boston lady, forgotten now, unfortunately, named Eliza L. Follen.

Almost a hundred years before *Christopher Robin*,—in 1832, to be exact—there was published in Boston a little blue-backed volume entitled *Little Songs*, by Mrs. Follen. It was destined to go through at least nine editions, to win an English publication, and to become for several generations of children a "best-seller."

The date is important. Six years before, Lydia Maria Child had issued the first numbers of the *Juvenile Miscellany* in Boston. *The Youth's Companion* had been established five years. The American Sunday School Union, popularizing the highly morbid, "goody-goody" stories for children, a type of literature to find its last national expression in the *Elsie Dinsmore* books, was coming into its full power. Lydia H. Sigourney was a popular writer with such verses for children as:

"I had a little friend;
And every day he crept
In sadness to his brother's tomb,
And laid him down and wept."

Mrs. Hale had published "Mary's Little Lamb" two years before in the *Juvenile Miscellany*, and Clement Clarke Moore, nine years before, had seen his "A Visit from St. Nicholas," the first American poem for children that was neither moral nor religious but full of childish gayety, printed in a newspaper as an anonymous poem. *The New England Primer*, although it was being displaced by Webster's *Blue Back Speller* and *Third Reader*, still continued to find sale in great numbers.

Bryant had published "Thanatopsis"; Poe's first volume was off the press; Emerson, the writer, was unknown; and Longfellow, Whittier, and Holmes were known by a few poems in the New England magazines.

That the book was published so early may seem even stranger when we realize that it came fourteen years before Griswold exploited his age's poetic taste in *The Female Poets of America,* and twenty years before Thomas Buchanan Read issued the fifth lavishly bound edition of his work bearing the same title. Even more startling it will seem when we realize that it appeared in a decade which still read and reprinted, time after time, such lines as:

"I, in the Burying Place may See
Graves Shorter than I;
From Death's Arrest no age is free
Young Children too may die;
My God, may such an awful Sight
Awakening be to me!
Oh! that by Grace I might
For Death prepared be."

In the very midst of this moral and morbid poetry for children, in the time when Maria Edgeworth, the Taylor sisters and Mrs. Barbauld were not only being widely read and enthusiastically admired, but were steadily winning imitators in America, came *Little Songs.* Its modest preface, so unlike all the ornate and florid ones of its contemporaries, stated its purpose. It was, the author announced, an attempt to "catch something of that good-natured pleasantry, that musical nonsense, which makes Mother Goose so attractive to children of all ages."

"Good-humored pleasantry" and "musical nonsense," a half century later to be immortalized by the inimitable Eugene Field and Mary Mapes Dodge, had arrived in American poetry. Nowhere before, outside of the Mother Goose folk rhymes, in England or America, had appeared a book for children in which such a preface could have been given.

The tiny volume, even to modern ears accustomed to the subtle niceties of Walter de la Mare and A. A. Milne, fairly rings with play and laughter. It is as contagious as a spring morning. The American children, who surely by 1832 had exhausted all their tears, so full had their literature been of the tomb and the awful terror of early death, must have been somewhat puzzled when first they came upon such lines as:

"Bring the hoop, and bring the ball;
Come with happy faces all;
Let us make a merry ring,
Talk and laugh, and dance and sing;
Quickly, quickly, come away,
For it is a pleasant day."

There is a perfect childishness, too, and a complete lack of adult "play-liking," which so often results in silliness, in lines such as:

"So when you meet Moolly,
Just say, with a bow,
'Thank you for your milk,
Mrs. Good Moolly Cow.'"

Then there's the capital trifle of little Fanny and Lucy who went walking in the meadow on a sunshiny day, and met a sheep.

"They said to a sheep,
'Pray, how's your mamma?'
But the lazy sheep answered
Them nothing but 'ba-a!'"

A little girl plays with her doll, probably for the first time in American poetry; a boy dresses up in his father's hat and boots; and some youngsters watch for their father's return home at night, not because they have been taught to do so, but because they know that he will romp with them. In "The Baby's Birthday" a grand celebration is planned. Annie will sing, Jimmy will dance, Charles will blow the trumpet, George will beat the drum, and father will play the jew's-harp.

We may say that this little book was the prelude to the interpretation of the modern father. With the exception of "A Visit from St. Nicholas," the picture of a romping father playing with his children had perhaps not been given before in American verse. Then we had to wait until the coming of Eugene Field for a constant repetition of such sublime jollity.

Not a single poem in the volume seems written for the purpose of forcing a moral on the child. Once the author, in the very midst of the verses, says to the reader:

"Not to hurt a living thing,
Let all little children try,"

but that is as near to didacticism as he comes. Even in this age of non-coercion, when children are supposed to discover everything for themselves, from a butterfly to God, not many of us would object to so mild an admonition.

Not once is the tomb mentioned. No child weeps for lost parents. Not a single adult is converted by the naïve spirituality of a Sunday School toddler. Neither is there a touch of grown-up cynicism, so general in the larger part of English and American poetry on children, from the anonymous sixteenth century lullabies to the moderns. (Blake, Swinburne, Christina Rossetti, Lucy Larcom, Field, and Riley were exceptions. Even the gentle Longfellow, in his one baby poem, "Weariness," closes with pessimistic forebodings. Whittier, too, ends that perfect child poem, "In School-Days," with such.)

But religion is not neglected. Just as *Christopher Robin* closes his book with a matchless and very real prayer, so do the children here, when the time comes, think of God. But He is not hurled at them while they play, nor is He the morbid God of "Now I Lay Me Down to Sleep" and of almost all of children's poetry of the early nineteenth century.

In spite of its startling innovations, the book is not entirely original. The poem called "The Farm Yard," for example, could be detected by a high school boy as a paraphrasing of Wordsworth. Mrs. Follen, too, was not the author of the first American poems for children that dignified the subject by creating names. Sarah Josepha Hale had already named a good many of her children, including *Mary* and the Wordsworthian *Alice Ray*. She had, also, like Mrs. Follen, selected commonplace names, and had entirely disregarded the flowery romanticism of the Della Cruscans.

The one poem by Mrs. Follen that is selected for the modern anthologies was probably not written by her. In almost every collection of children's poetry I have examined, the poem, "The Three Little Kittens," is credited to her. Yet in the second preface to the 1851 edition, she says that she is adding two poems by an anonymous poet which she found in an English publication. She adds, however, that she has made some "additions" to the lines. One of these poems is "The Three Little Kittens."

In spite of her great popularity during her lifetime, very little is known of Mrs. Follen. Before her marriage she was Eliza Lee Cabot of Boston. Her husband, Charles Follen, to whom Whittier dedicated one of his anti-slavery poems, was driven from a professorship in the University of Jena while still a young man, apparently for political reasons. While in Switzerland he was appointed Professor of Civil Law in the University of Basle. Then, so Whittier claimed, the united demands of Prussia, Austria, and Russia for his delivery as a political offender forced him to flee to this country for protection. Soon afterward he became a member of the Harvard faculty. In 1828 he married Miss Cabot.

The ever optimistic Griswold said that "the union was eminently happy," although it was to last only eleven years. Professor Follen, obviously unable to control his burning love for universal freedom, openly expressed sympathy with Garrison. At a meeting of the New England Anti-Slavery Society, following a speech by A. A. Phelps, Follen rose to his feet and declared that he was ready to join the organization, although he realized the consequences of such an unpopular act. His prophecy was all too true, for Harvard immediately dismissed him. Later he became a member of the Executive Committee of the American Anti-Slavery Society. On January 13, 1840, he lost his life on the ill-fated steamer, Lexington, which was burned on a trip from New York to Boston.

Mrs. Hale, in the study which has not yet received its due appreciation, *Woman's Record; or Sketches of All Distinguished Women, from the Creation to A. D. 1868,* says that Mrs. Follen was more successful as an educator, perhaps, than as a writer. She edited the life of her husband, wrote a number of prose stories for children, as well as *Little Songs,* and was a "best-seller" with the books, *Sketches of Married Life* and *The Skeptic.* But the larger part of her time, after her husband's death, was given to the training

of boys for Harvard. Mrs. Hale, always on the defensive when writing of women, tells the story of her educational experiences in the true *Godey's Lady's Book* fashion. "Mrs. Follen," she says, "on the death of her lamented husband, was left to provide for the education of their only child, a son, of nine or ten years of age. She resolved to conduct the instruction of her son, and receiving into her home a few boys, sons of her beloved and true friends, as companions for her child and pupils of her care, she fitted these youths for Harvard University. Such honourable exertions to perform faithfully the duty of father as well as mother to her son, demand a warmer tribute of praise than the highest genius, disconnected from usefulness, can ever claim for a Christian woman."

Mrs. Follen cannot, under any condition, be called one of the "outstanding" poets of childhood. She was an innovator, an amazingly modern and fresh interpreter of children, and, for her time, was certainly the surest in touch. But she was decidedly limited in her technical knowledge of poetry, and, in spite of her gayety and wholesomeness, was often lacking in imagination.

EFFECT OF FAMILIARITY WITH STANDARDIZED ACHIEVEMENT TESTS ON SUBSEQUENT SCORES

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For a number of years the writers have felt that the child in a grade who is familiar with standardized tests has an unfair advantage in taking tests over the one who is unfamiliar. This feeling seems to be pretty general but there is little evidence on the point. The writers decided to investigate the effect of a testing program on intelligence test results stated in terms of I. Q.

In order to investigate the problem it was necessary to find a school in which no standardized tests had ever been given. This condition was met by the selection of a school in a mountain section of Kentucky. The town in which the school is located is somewhat unusual in that its population is almost entirely of native mountain descent. The school is properly graded and the grades are filled to capacity. It was, however, virgin territory so far as standardized achievement and group intelligence tests were concerned.

During the first month of school the Illinois General Intelligence Test was given to the children in the intermediate grades. The pupils were then divided into two groups by matching a pupil in one group with one in the other in terms of age, grade, sex, and mental age. There were 140 pupils in each group at the beginning of the experiment but owing to unusual economic conditions only 62 matched pairs were available at the end.

The following procedure was used: Group I was taken separately and given fourteen standardized achievement tests. These tests were selected so as to give training in making tests. The Woody-McCall Mixed Fundamentals Test in Arithmetic, the Monroe Silent Reading Test, and similar tests were used. In all a period of a little over two hours was used in giving tests. The testing was done over a period of seven weeks. Two tests were given each week, one on Monday and one on Thursday. A great deal of care was exercised to prevent Group II from becoming acquainted with the tests. The children's scores were reported to them and charts showing the ranking of each student were made. Every effort was made to retain the interest of the children. After the fourteen tests had been taken, an interval of three weeks was allowed in which the children took no test. At the end of this period the two groups were put together and given the Otis Group Intelligence Scale, Advanced Examination, Form A. After the pupils in both groups had been given the Otis Scale, Group II was then given the same tests which Group I had taken. The same procedure which had been used with Group I

was followed. After the tests were all given, an interval of three weeks was again allowed. At the end of this time, the two groups were put together a second time and the Otis Group Intelligence Scale, Advanced Examination, Form B was used. The results for the two groups are presented in the table.

TABLE

Showing Averages Secured by Means of the Otis Group Intelligence Scale

	Group I.	Group II.	Difference in I. Q.
Form A	104.95	100.14	4.81
Form B	113.19	112.71	.48
Increase in score on Form B	8.24	12.57	

From the table it is seen that Group I, which had been given the fourteen standard achievement tests before taking Form A of the Otis Group Intelligence Scale, Higher Examination, averaged 4.81 points more than Group II in I. Q. If this superiority was due to superior native ability in the group, Group I would be expected to remain approximately five points ahead of the other group in the next test. If this superiority was due to the effect of familiarity with the procedure of test-taking gained from practice in taking the fourteen standard achievement tests, then Group II would rank approximately the same as Group I on Form B, which was given after Group II had taken the fourteen achievement tests.

Reference to the table shows that Group I gained 8.24 on the average for Form B. Group II gained on the average 12.57 points and was only .48 of a point lower than Group I. Theoretically, if the two groups had been of exactly the same degree of brightness and the difference on Form A had been due to familiarity with standard tests, then Group II should have advanced 13.05 on its average. It did approximately this by advancing 12.57 points.

The Otis Group Intelligence Scale is probably as reliable and as well standardized as any of the group intelligence scales. Results secured through its use would likely be similar to those found for other group tests used for the purpose of measuring intelligence.

It will be noted that two hours of distributed practice on fourteen achievement tests did not result in as great gain in I. Q. as the one hour with the Otis Scale, Form A. This would seem to indicate that the greatest gain from practice effect occurs when different forms of the same test or when different tests of similar construction are used.

The study shows that there is a decided practice effect in taking tests. In practical school work as well as in research this factor must be considered.

A STUDY OF STUDENT TEACHING

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Criticisms are often offered on the part of patrons of public schools in which supervised practice teaching is being done because they feel that pupils do not receive full justice in classes taught partly or wholly by college cadets. The purpose of this study is to evaluate a certain type of student or practice teaching in which the cadet was in full charge of the room and did all of the teaching. This work was under the direction of the State Teachers College at Kirksville, Missouri.[1]

This study is concerned with answers to the following questions: (1) What is the achievement of pupils under student teachers as compared with that of pupils under regular classroom teachers? (2) What is its comparative cost? (3) What is its value to the practice teacher? (4) What is the reaction of the school and the community to this type of student teaching in the school?

Eight public schools within a radius of thirty-five miles of Kirksville were chosen. They were Novinger, a fourteen teacher consolidated school; Connelsville, a five teacher consolidated school; Lancaster, a fourteen teacher town school; Glenwood, an eight teacher village school; Queen City, a ten teacher town school; Greentop, a seven teacher rural village school; Davis, a three teacher rural school; Shibley's Point, a two teacher rural school. The total enrollment was 1,350 pupils. There were sixty-three teaching positions in these schools, forty-two of which were filled by regular classroom teachers and twenty-one by cadet or student teachers.

The Porter Community School, a one-room rural school, also participated in this work, but the work varied somewhat there as it had both a cadet teacher and a regular teacher for the one room.

A cadet teacher was assigned to one of these communities for a period of three months and assumed the position of a regular classroom teacher, with all of the responsibilities and authorities of the regular teacher. She had the same equipment, the same type of classroom, the same library equipment, and taught approximately the same number of pupils as the regular teacher. The cadets taught in all of the different grades and types of positions which are represented in the various schools—from the first grade to fourth year in high school. The cadets directed playground work, and acted as sponsors in the various extra-curricular activities.

[1]At the time of this study, Mr. Elsea was Professor of Rural Education and Director of Cadet Teaching in the State Teachers College at Kirksville, Missouri.

The cadet lived in the community and took part in the various community activities the same as the regular teacher. At the end of three months the cadet returned to college to resume her work there and another cadet was sent out to take her place. In order that this should cause no break in the work, the new cadet came a few days early to become thoroughly acquainted with the work before assuming the position of teacher.

The cadet was allowed no salary for this work, but was allowed credit for three months work in education by the college.

Two additional factors which must be considered and which are probably controlling factors, are the previous training and the amount of supervision or help received by both cadet and the regular teacher.

The training of the regular teacher used for comparison, was that required by the State, at least sixty semester hours (two years) of college training for elementary teachers and one hundred and twenty hours (four years) of college training for high school teachers, with particular preparation for those subjects which the teacher taught.

The cadet teacher was required to have at least thirty semester hours of college training for elementary work, and seventy semester hours for the high school work, with special training for the particular field work. In addition to the regular supervision of the school received by the regular teacher, the cadet received special supervision under a trained supervisor.

It may be well to quote here from the agreement made by the college with the school in which a cadet taught:[1]

> "1. Each school in which cadet teaching is being done must provide at least one hour each day of supervision for each cadet teacher in the system. The supervisor doing this work must be approved by the Teachers College.
> 2. The Teachers College will furnish approximately one hour of supervision per week for each cadet teacher.
> 3. The superintendent must hold faculty meetings each week which shall be of a distinctly professional nature.
> 4. The director of the cadet work will hold a group meeting each week, which all cadets, supervisors and superintendents will be required to attend. Transportation to these meetings will be furnished by the schools in which the cadet work is being done.
> 5. The regular teachers in the cadet schools should be of a high type, in order that the cadets may with profit observe the work.
> 6. Suitable classrooms must be furnished for each cadet teacher.
> 7. Sufficient library, reference, supplementary material, and laboratory equipment must be furnished each cadet to carry out the requirements of the State Course of Study in the subjects which she teaches.
> 8. The test materials needed for carrying on this work must be furnished by the schools in which the cadets are teaching."

Briefly stated, the factors wherein the cadets differed from the regular teachers are these: (1) The regular teacher received a salary, the cadet teacher received college credit; (2) The regular teacher was there for the full year or more, while the cadet teacher changed every three months (three times

[1]There was no signed contract made between the college and these schools. There was, however, a general agreement to which each party adhered. The above quotations were taken from a copy of this agreement which was in the hands of each party.

each year); (3) The regular teacher had about double the college training of the cadet and usually had had previous experience; (4) The cadet teacher received special supervision, approximately one hour a day more than the regular teacher plus the weekly conference.

Achievement of pupils under student teachers as compared with that of pupils under regular classroom teachers. In evaluating the student teaching the Intelligence Quotient and educational achievement of the pupils were the only factors that were measured. Since a large number of cases are used, there will be a tendency for the various other factors which enter to balance each other.

Tests were given to the Queen City Schools at the beginning and at the close of the first year of the experiment[1] and to the Glenwood, Lancaster, Novinger and Connelsville schools at the beginning and close of the second year. On account of the lack of suitable tests, only the work of the eight lower grades is considered in this report.

Form A, of the Stanford Achievement Test, together with the Haggerty Intelligence Examination were given at the beginning of the year, and Form B, Stanford Achievement Test was given at the close of the school year.

These tests were grouped according to grades and school, scored, results tabulated, and average taken (disregarding the subnormal pupils). The results found are as follows:

The Intelligence Quotients of the different groups of students ranged from 90 to 110. The average for those under the cadet teacher and those under the regular teacher were practically the same, i. e., 95. Since the Intelligence Quotients of the different groups in the various schools were practically the same, the Intelligence Quotient as a factor in the experiment is not considered further.

RESULTS OF RE-TESTS

TABLE I.

ROOMS IN CHARGE OF REGULAR TEACHERS

School	Grade	Av. I. Q.	Ach. Gr. at Beginning	Ach. Gr. at Close	Gain
L	5	93	4.73	5.5	.77
L	6	94	5.09	5.6	.51
G	2	108	2.4	3.1	.70
G	3	113	2.99	3.73	.74
C	4	88	3.9	5.3	1.4
C	5	92	5.4	6.3	.9
C	6	98	5.4	6.7	1.3
N	4	88	3.13	3.9	.77
N	5	86	4.28	4.7	.42
N	8	90	7.05	7.6	.55
		Average 95			.81

Range of Achievement Gain .42 to 1.4.

[1]The complete report of the Queen City Schools is not available at this time, but there was no apparent difference in the achievement of the pupils under the regular teachers as compared with those under the cadet teachers.

TABLE II.

ROOMS IN CHARGE OF CADET TEACHERS

School	Grade	Av. I. Q.	Ach. Gr. at Beginning	Ach. Gr. at Close	Gain
L	2	93	2.27	3.3	1.03
L	3	97	2.92	3.7	.78
L	4	110	3.00	4.7	1.70
L	7	99	6.63	7.3	.67
L	8	93	7.7	8.6	.90
G	4	107	4.5	5.0	.50
G	5	97	4.56	5.50	.94
G	6	98	5.83	6.6	.77
G	7	92	6.65	7.3	.65
G	8	101	7.10	8.0	.90
C	7	96	6.17	7.2	1.03
C	8	92	7.30	8.6	1.3
N	2	91	2.05	2.8	.75
N	3	86	2.85	3.6	.75
N	6	87	4.90	5.6	.70
N	7	90	6.92	7.2	.28
		Average 95			.85

Range of Achievement Gain .28 to 1.70.

The average increase in achievement of all of the pupils under the cadet teachers was .85 of a grade, measured by the Stanford Achievement Test, while that under the regular teachers was .81 of a grade. The pupils under the cadet teachers gained .04 of a grade more than the pupils under the regular teachers. In three of the schools the achievement of the pupils under the cadet teachers was slightly greater than that of the pupils under the regular teachers, while in one school the achievement of the pupils under the regular teachers was superior to that of the cadet teacher. The difference in achievement of the various groups was so slight, however, it would not be safe to say that either the work of the cadet teacher with extra supervision, or that of the regular teacher was superior. Under a type of student teaching as herein described it seems that the work of the cadet teacher is equal to that of the regular classroom teacher.

It should be kept in mind that this study is not an attempt to show that the work of a group of teachers with limited training is equal to a group of well trained teachers, but that with the group having less training, supervision furnishes an equalizing factor.

Dr. Carl G. F. Franzen made a similar study in the Bloomington, Indiana, High School between the kind and character of the class of work accomplished by pupils who did their work in classes taught only by regular teachers and those in classes which were partially taught by student teachers. His findings were that pupils were doing practically as well under student teachers as they were under regular teachers.[1]

Opinions of Parents, Board Members, Superintendents and Others Who Were Interested. The results found are in keeping with the reaction of the

[1]Carl G. F. Franzen "A Comparison of the Results Made on Certain Standardized Tests." Bulletin of the School of Education, Indiana University, March, 1926.

parents, school board members, other school officials and educational specialists who visited the schools and classed the work of the cadet teacher as being as good as that of the regular classroom teacher. When the cadet teachers and the regular teachers were scored by a teacher's rating card, it was again found that the work of the cadet teachers rated as high as that of the regular teachers.

The Cost. The cost is much less than for the regular demonstration or practice school. The saving in salaried teachers in the school system is usually sufficient to pay for the extra supervision. There are, however, some other expenses attached, so that it cannot be said to be upon a self-paying basis, but it is nearly so.

Value to Cadet Teacher. After the work was completed and the grades in, each cadet was asked by the supervisor to write his frank opinion of the value of the work. Without a single exception every one who had taken the work praised it in no uncertain terms. A concensus of the opinions expressed showed the following values expressed the most frequently:

1. It furnished opportunity to acquire self-confidence.
2. It furnished opportunity to test out methods and theories which had been taught to them in their college courses in teaching.
3. It gave opportunity to check, discover, and remedy personal traits which they possessed which hindered their effectiveness as teachers.
4. It gave opportunity to become used to and to utilize supervision.
5. It placed the cadet in a teaching environment where she could get the teaching spirit with a plan and plenty of freedom to develop this plan.
6. It gave the cadet a full day's program of teaching, even to playground supervision, which the old plan of practice teaching did not offer.
7. It gave the cadet an opportunity to know the school patrons, by living and working in the community.

Some of these opinions were expressed by students who had had opportunity to compare this type of teacher training with observation teaching or so called practice teaching. In the case of others, the judgment was made without any standard with which to compare it; hence, the worth of the various opinions expressed differs.

Two factors are present in cadet teaching as it is in operation under the present arrangement which are not present in many situations for training teachers in service. The first is, that the teacher has a period of time which is long enough for her to plan, teach, test, and reteach a complete unit of subject matter. While it has not been determined that twelve weeks is the optimum length for such a period, it has developed that there are a number of phases of the work of the teacher which can not be judged by them or the supervisor on the basis of one or two weeks' work.

The second factor is largely a psychological one. This factor is the feeling on the part of the teacher that the whole problem of managing the class, establishing routine, etc., is her problem. The feeling that the pupils are looking past her or through her to the regular room teacher is absent.

Cadet Teaching from the Standpoint of the School and the Community. Cadet teaching met with the favorable support of the schools and communities in which the experiment was being conducted. The superintendents who were in charge of these cadet schools took a very active interest in this work. They gave much time and thought to it. These men were frank in saying that they believed that the cadet work strengthened their school systems, that it was a forward step in the field of education, and that while it caused them more work, they were glad to have it because of its many merits. The regular teachers endorsed the work and showed a friendly attitude toward the cadet teachers by advising with and assisting them in their problems.[1] The patrons and school board members were very appreciative of the work. The Parent-Teacher Association heartily endorsed the plan. The cadet teachers were entertained in the homes and in every way treated as regular faculty members. The boards of education and superintendents further expressed their faith in the cadet training by later employing many of these cadet teachers as regular members of their faculties.

CONCLUSIONS

First: Pupils taking work under cadet teachers, i. e., student or practice teachers who assume the position of a full time classroom teacher in a regular school system for a period of three months under expert supervision, when measured by standardized tests, showed an achievement equal to that of the pupils under the regular classroom teachers.

Second: The cadet teacher assumes the position as a regular classroom teacher, thereby lessening the number of regular teachers usually required. This decreases the cost of instruction to the extent that the savings more than pay for the additional supervision needed.

Third: The cadet teachers enjoy the work and get the real training experience which they believe is very essential to their success as teachers. Every teacher who has taken the work has praised its merits.

Fourth: Students, regular teachers, school officers and patrons of the communities where the work was conducted, endorse the cadet teaching and have accepted it as a strengthening factor in their school systems. As further proof of their faith in this type of training, many of these cadet teachers have later been employed as regular teachers in these school systems.

[1]Neither superintendents nor regular teachers received any additional pecuniary compensation in recognition of this extra work.

THE INDUSTRIAL OUTLOOK OF THE SOUTH

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There has been considerable discussion in recent years concerning the industrial expansion of the South. Particular emphasis has been placed in these discussions on the present expansion of our manufacturing facilities and the possibilities of their future development. The general impression has been left that the South has been making wonderful strides in an industrial way though little emphasis has been placed on its agricultural situation except in so far as Federal farm relief was concerned. Data that have recently become available are not as encouraging as the impressions left by certain enthusiasts would warrant. Space will not permit the presentation of data except those which concern the larger factors in our agricultural and industrial life. Furthermore, the fifteenth Census is now being taken and detailed information will then be available which is now impossible to obtain. It is believed that the Census figures will hold many surprises, some of which are indicated in this paper.

In the first place it should not be forgotten that agriculture has been, still is, and probably will be for some time to come, the chief industry of the South. This is shown by the fact that in the year 1927 (1928 for agriculture) the South produced 16.5 per cent of the nation's manufactured products, 33 per cent of its mineral products, 34.6 per cent of its agriculutral products, and 20.9 per cent of the gross value of all products. The value of its agricultural products amounted to 5.6 billions of dollars in 1927, while the value added by manufacture for the same year was only 4.1 billions of dollars. However, since 1910 the South increased the value of its agricultural products by 2.1 billions of dollars and its manufactured products by 2.8 billions of dollars, added value.

Recent data, (Regional Changes of Farm Animal Production in Relation to Land Utilization, United States Department of Agriculture, Bureau of Agricultural Economics) do not place the South in a very favorable agricultural situation when compared to the rest of the country as to production of live stock, feeds and crops. Of course, the South has made a remarkable and almost unbelievable increase in its cotton acreage and production.

Speaking of the decreased production of live stock as a whole, from 1920 to 1929, the report states that "the percentage decrease in animal units was greatest in the States from Louisiana to South Carolina, where it ranged from 25 to 34 per cent. The decrease in most of the northern states ranged

from 10 to 20 per cent except in Minnesota, Iowa, and Nebraska where the aggregate quantity of live stock remained practically constant." There was a greater decrease in the South with regard to all cattle than in any other section except the states of North Dakota, Nevada, New Mexico and Arizona. With the decreased production of all live stock as a whole on southern farms since 1920 went a similar decrease in the production of feedstuffs.

The data given indicate that the South has not kept pace with the agricultural development of the nation as a whole, but the South still has a faithful ally—cotton. In 1919 the South harvested 33.5 millions of acres of cotton yielding 11.4 millions of bales. In 1929 it harvested 45.9 millions of acres and gathered 14.9 millions of bales. This shows an increase during the decade of 37 per cent in the acreage of cotton and 30 per cent in the yield. The North has made no such increase in production of its major crops such as corn, wheat, oats, rye or hay. It appears that the South may hold its relative agricultural position to the nation as a whole largely because it has extended the cultivation of cotton—because it has more than ever emphasized the one crop system. However, there are numerous agricultural items of great value not enumerated above which may change the situation greatly. There are the dairy products, poultry products, potatoes, both sweet and white, tobacco, fruits and vegetables all of which must be considered.

The South has shown remarkable progress in the development of its manufactures during the past half century and this growth and development will probably continue through the coming years. Strange as it may seem, however, the first half of this period showed as rapid a rate of growth as did the last half, if not more so. The manufactured output of the South increased fourfold from 1880 to 1910 and, when allowance is made for the decreased purchasing power of the dollar, the increase was only twofold for the years 1910 to 1927. The recent industrial expansion of the South is a concomitant of industrial expansion throughout the United States as a whole, rather than any unusual or phenomenal expansion in the South. In 1880 the manufactured products of the South were nearly one-eighth of the total of the United States, by 1910 the South manufactured nearly one-sixth of the total and it held practically the same relative position in 1927. To be exact, the South produced 12.3 per cent of the nation's total manufactured products in 1880; and in 1910 and 1927 it produced 15.3 per cent and 16.5 per cent of these products respectively. The value of the South's mineral and agricultural products are each about one-third of the nation's total, while the gross value of all southern products is about 21 per cent of the nation's total.

The chief industrial products of the South aside from agricultural products, and their value are:

Cotton Goods	$910,000,000
Petroleum Products	650,000,000
Timber and Lumber	555,000,000
Tobacco Products	400,000,000
Iron and Steel	271,000,000

The most phenomenal growth of any industry in the South has been that of the cotton textile industry. In 1900 the South had only 23 per cent of the active cotton spindles in the United States; while in 1928 it had nearly 55 per cent of the active cotton spindles and over 52 per cent of the total of the country. The South has shown a similar gain in the ratio to national production in its output of coal. In 1900 the South produced one-sixth of the coal of the United States; by 1928 the output of southern coal was equal to 30 per cent of the total. On the other hand the relative position of the South has decreased in the output of coke, iron ore, and pig iron. The South produced 28 per cent of the coke of the country in 1900, but by 1928 its ratio of production had fallen to less than 17 per cent. Likewise in 1900 the South produced over 17 per cent of the iron ore mined in the country, while in 1928 the South's share amounted to less than 11 per cent. In 1900 the South produced 19 per cent of the pig iron of the United States and in 1928 only 12 per cent. In 1911 the Southern Appalachian States produced 2.3 per cent of all kinds of steel ingots and castings and by 1926 this percentage had risen to 4.58 per cent of the total of the production in the United States.

The increase in the petroleum production of the South during the past 30 years has been remarkable, increasing over 30 fold. It produced 26 per cent of the crude oil of the nation in 1900 but by 1928 its percentage ratio had risen to nearly 64 per cent. Similar relative gains have been made in the development of hydro-electric power. Since 1908 the South has more than trebled its developed water power while the rest of the country was little more than doubling its installed hydro-electric capacity. It has had a healthy growth in the manufacture of furniture, rayon, and of kraft, or brown wrapping paper during the past decade. It would be impossible, and largely to no purpose, to indicate the development and growth of the South, industry by industry, during the present century or past decade. Enough has been said to show that in the cotton textile industry the South has made a phenomenal relative gain when compared to the country as a whole. It has also made commendable relative gains in other industries. It should at the same time be pointed out that in several industries the South has, relatively speaking, fallen behind. A summary at this point indicates that while the South has had a remarkable industrial development during the past decade or two, this development has been common throughout the United States. In short since 1910 the South has produced about one-sixth of the manufactured products of the nation.

As to the probable future growth and expansion of industry in the South, certain factors essential to industrial growth and important modifying factors must be analyzed before any satisfactory answer can be given. The factors essential to industrial growth and development are natural resources, labor, and capital. That the South has natural resources adequate to sustain a continued industrial growth there can be no question. Capital is the most

liquid and mobile of the factors of production and will readily flow to those regions offering the highest returns with reasonable degree of safety. The chief handicap to the South lies in (1) its inadequate supply of skilled labor and (2) inexperienced management. The industrial prosperity of the South will be almost in direct proportion as it realizes the above fact and takes efficient and adequate steps to strengthen itself in this respect. It can not be emphasized too strongly that the industrial growth of the South depends upon the development of skilled artisans, and wise, efficient management.

The present supply of southern labor is largely unskilled and much of its production is of an inferior quality. In a recent conversation one of the managers of a chain southern creamery stated that a large majority of the butter produced in the South graded from 87 to 89 points while in the northern creameries it graded from 90 to 92 points. This places the South at a great disadvantage in the marketing of this product. In the cotton industries the South produces the coarser goods and when the same type of goods is produced it is generally of an inferior quality. The South produces 62.5 per cent of the woven cotton goods of the United States over 12 inches wide but receives only 52.4 per cent of the total value. Placing the comparison on a unit basis, it means that for each 62.5 units produced in the South it receives 52.4 per cent, while for each 37.5 units produced in the North it receives 47.6 per cent, of the total. Out of 27 classes of cotton goods listed, the South surpassed the North in quality production in only three cases. The value of cotton goods produced in the South for each person engaged is $3,130. In the North it is equal to $3,500. The value added by manufacture for each person engaged in all industries is equal to $2,470 in the South and $3,390 in the North. While some modifying factors other than quality may enter into and effect the value, nevertheless it is safe to state that the output of the southern factories is of the cruder kinds which require less skilled labor.

The fact that the labor of the South is largely unskilled undoubtedly accounts to a great degree for the low wages paid in this section. The average annual wage paid in the factories of the South in 1927 was $925; in the North it was $1,375; while for the nation as a whole it averaged $1,284. The average annual wage paid in all factories for selected states, north and south, in 1925 was as follows:

Georgia	$703	Massachusetts	$1,210
North Carolina	732	Iowa	1,230
Alabama	872	Illinois and New York	1,440
Tennessee	890	Ohio	1,445

Sufficient data have been presented to warrant the following summarization:

(1) In the past 50 years the South has shown a healthy and, at times, vigorous industrial development, during which time the value of its products increased tenfold based on an equalized purchasing power of the dollar. During the first 25 years of this period the rate of industrial development

in the South decidedly surpassed that of the country as a whole. During the last 25 years the rate of industrial development in the South has but slightly surpassed that of the nation.

(2) The most phenomenal industrial growth in the South in recent years has been in the manufacture of cotton goods.

(3) Labor is largely unskilled, and management inexperienced.

(4) Manufactured products are of the cruder sort.

(5) Wages are low.

(6) In addition it could be shown that the South has abundant natural resources, and in recent years it has witnessed a wider diversification in its manufactured products.

From the preceding generalizations it is safe to draw the following conclusions as to the future development of industry in the South.

(1) It will certainly equal the industrial development of the country as a whole.

(2) It has favorable opportunities to surpass the rate of industrial development of the nation. Marked progress in this attainment depends mostly on wise leadership, and a conscious effort to develop an ever increasing number of skilled workmen. The establishment of diversified industries is the greatest recently acquired asset. It will assist materially the development of technical skill and experienced leadership without which industrial growth is slow and halting.

At several points throughout the paper it was stated that industrial and agricultural development depended largely on an adequate supply of skilled labor and competent management. This is true, for in choosing a location a corporation seeks an adequate supply of skilled labor. This accounts for the fact that the automobile industry is centered around Detroit, the rubber industry around Akron, the boot and shoe industry in Massachusetts, and the cutlery industry in Connecticut. It requires an unusually strong incentive to induce a corporation requiring skilled or semi-skilled labor to locate at some place distant from the supply of labor trained to do competent work.

This being true, the question arises, can the public schools do anything to assist in the development of skilled labor and the training of competent management in the South? The fact that we have Federal, as well as state legislation directed to this end indicates faith in the value of education in this respect, and gives encouragement to the schools to undertake the task. The Smith-Hughes Act, the Federal Vocational Education Law, aims at the promotion of industrial education, agricultural education, home economics, and, to a certain extent, commercial education. Industrial education will certainly assist the prospective worker to adapt himself more quickly to his task and enable him to grasp the principles related to his work more readily. It will, in short, give him industrial intelligence. The idea of co-operative schools, so

successfully applied at the University of Cincinnati, the Georgia School of Technology, and elsewhere, is now being extended into the high schools. In vocational agricultural education the same plan is carried out. The work of vocational agricultural education should be extended more completely, and, in particular, should be encouraged more vigorously in the negro schools in the South. Successful agriculture requires a high degree of self-direction and management. This is true particularly where diversification is practiced. While many factors undoubtedly contribute in keeping much of southern agriculture from being diversified, lack of skilled agricultural labor is undoubtedly one of them. The schools of the South can perform a valuable service to society by directly and actively assisting in the development of skilled laborers both in the workshop and on the farm.

The higher institutions of learning in the South have a task allotted to them in the training of technicians, leaders, and industrial managers. Many institutions seem alert in the training of technicians, able to direct successfully the organization and operation of the physical plant, but they seem to forget that one of the most difficult problems of industrial management is the direction of the personnel. Labor can no longer be directed successfully by ukases. It must be guided, directed, led. Labor management is an art, and much can be done to develop this art aside from the costly method of experience. This task the higher institutions of learning should undertake to perform. If education is a preparation for complete living, then anything which the schools may do to assist man in acquiring the necessities and comforts of life more readily and abundantly is truly educational. Here is a real objective for our educational institutions.

RATING TRAINING FACILITIES IN TEACHER-PREPARING INSTITUTIONS

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Every institution that sets itself up to prepare teachers for the public schools should look carefully to its training (practice) facilities. Classroom teaching is the heart of the whole educational process and its mastery should characterize the preparation of administrators and research specialists, as well as supervisors or classroom teachers themselves. For the great body of professional workers this mastery can come only through a rigid, extended training in actual class teaching under adequately prepared supervisors of training.

In order that those responsible for the organization, administration and conduct of teacher-training may critically and constructively evaluate facilities in their institutions for this work the following rating scheme is proposed. It is primarily a self-measuring stick designed to reveal weaknesses and thereby pave the way to improvement. In some cases it may lead to abandonment of the attempt to furnish this service to the public, at least until such time as ample funds may make it possible to meet adequate standards.

The president, the dean, the director of training, and others interested may well resolve themselves into a committee to study the following chart. The

RATING CHART

Ranking	Hub or Center	Typical Situation	Internal Organization	Staff-Student-Pupil Ratios	Phases of Training	Selection, Guidance & Elimination	Lesson Plan Procedure	Conferences	Pupil Interests	Rating Procedures	Extra-Curricular Activities	Buildings
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
10												
9												
8												
7												
6												
5												
4												
3												
2												
1												
0												

items at the head of the columns of the chart represent questions which make it possible to give a training school a more or less definite rating on a scale of zero to ten. When these ratings have been agreed upon for all the headings the checkings may be connected by a curved line to show the general status of the facilities provided. Following the chart the questions are given in full and under each a brief discussion appears. Absolute agreement with the discussions given may not be necessary but the discussions will lead to investigation and possible improvement.

QUESTIONS AND DISCUSSIONS

I. Hub or Center

Is the training school the hub or center of the teacher-preparing organization?

Discussion: This question, of course, involves the relationship of the training (practice) school to the institution as a whole, if a teachers college, or to the department or college if a part of a university or liberal arts institution. A high rating under this question would indicate that the training school provided is considered vital and essential to the organization by the entire staff responsible for the work. Casual or even prearranged contacts with selected rooms in an adjacent public school system and not under direct control of the college would naturally rank rather low.

Ideally, one might think of the training school as comprising all grades from the kindergarten through the high school, located at the center of the teachers college campus, with the Dean of the college as director of education and training with the heads of academic and other departments and their various staff members actively co-operating.

II. Typical Situation

Is the training school really typical of the public schools of the area served?

Discussion: Since the purpose of the institution is to prepare workers in the public schools, usually of a somewhat limited area, the training school should probably be very similar to other public schools within the area. The pupils should not come entirely from selected groups; for example, from professors' families or from groups representing inferior or superior economic and social conditions. In size, organization, housing, etc., it should approximate average conditions with average problems to meet and to solve.

III. Internal Organization

Has the training school an acceptable internal organization?

Discussion: An acceptable internal organization probably involves two or three levels of service. The first level might be the dean and director with two assistant directors, one in elementary education and one in secondary education. The second level would then comprise the training supervisors, the directors of training, commonly called critics. Sometimes a third level

appears comprising the assistant supervisors or room teachers, persons not so directly connected with training but more closely concerned with pupil interests. In addition to the above educational staff members there should, of course, be ample clerical help.

IV. Staff-Student-Pupil Ratios

Does the training school meet adequate ratio standards?

Discussion: At the present time these ratios are approximately as follows: A group of thirty pupils in charge of one supervisor responsible for training eighteen student teachers requiring ninety hours of practice per year, the trainees limited to three-fifths of the total teaching time given to the pupils. These ratios, however, will probably be stiffened up in a very few years. The three phases indicated in question No. V will demand differing ratios, possibly limiting the number of trainees assigned to a supervisor during the period of directed teaching to three or four with thirty-six to forty pupils available. During the period of responsible teaching one supervisor can well handle six or eight trainees at one time.

V. Phases of Training

Does the training school provide for all steps or phases needful in training?

Discussion: There are at least three rather definite phases in the training of classroom teachers. These are: (1) Illustrative or demonstration teaching; (2) directed teaching; and (3) responsible teaching. In general, these are provided in training situations but usually without proper recognition of the importance of the first and the last. The periods for both of these are usually too short. As a minimum the standards should look to at least one quarter of work for each and it may be that ultimately the period of responsible teaching will be expanded to the work of apprentice teaching under the general direction of the college. The first period should parallel the course in Introduction to Psychology and Classroom Teaching and extend from twelve to eighteen weeks. The second period should be long enough to give the trainee sufficient knowledge and skill to be prepared to do the responsible teaching of the final period under limited supervision.

VI. Selection, Guidance and Elimination

Is there a committee or some definite procedure set up within the college organization to select the teachers, carefully guide them into the proper fields of service, and if necessary to eliminate those not fitted for the work?

Discussion: Nature and nurture are both operative in the making of good teachers. Usually also a teacher is best fitted for some particular phase, for example, primary, music, or high school departmental work. It is time that our institutions set up machinery to care for the needs of selection, guidance, and elimination. This machinery should operate on entrance to college and throughout the whole college course. It should aid in selecting fields of work.

It should demand adequate preparation in English and other background lines, thorough mastery of special content, and the maintenance of proper professional standards.

VII. Lesson Plan Procedure

Does lesson plan procedure conform to acceptable theory and practice?

Discussion: Classroom procedure is undergoing rather definite changes. We are getting away from the older, formal types into freer pupil activities. Lesson planning is vitally important and must be adapted to the newer procedures.

VIII. Conferences

Are individual and group conference periods scheduled and actually held as per schedule?

Discussion: The supervisors of training need continuous contact with the trainees; this must be both individual and group. Moreover, the elementary and secondary directors need to unify the whole field of training and keep in touch through general conferences.

IX. Pupil Interests

Are training school pupil interests studied and properly protected?

Discussion: The room teacher or assistant supervisor should be directly responsible for the pupils themselves, teaching not less than two-fifths, preferably one-half, of the time, and continually looking out for their interests. Under proper organization and procedure the pupils in the training school can probably receive as good or better instruction than in the average public school classroom.

X. Rating Procedures

Are student teachers carefully rated as to their abilities, accomplishments and professional growth?

Discussion: In spite of the many rating schemes that have been devised the procedures are very uncertain. Both in the interests of the trainees and of public education, the rating of student teachers and their final estimate for placement purposes must be very carefully attended to.

XI. Extra-Curricular Activities

Is there provision for trainee experience and contacts in various school and community extra-curricular activities?

Discussion: These activities involve not only the various extra-curricular activities in grade and high school work, but the organization and conduct of Parent-Teachers Associations, various social meetings and the like. Of course, these should approximate or be in advance of what are being carried on in the regular school systems.

XII. Buildings

Are the first two phases of the training school work, for illustrative teaching and directed training, adequately housed on, or adjacent to, the campus?

Discussion: If the training school is to be the hub or center of the institution's work it must be directly at hand or near the campus for at least the first two phases of the work; probably the third phase should not be too close to the institution. Ultimately there may be demanded two training schools—an illustrative teaching school and a directed practice school—the third being more directly in connection with the public school system. Studies are now being made of the kind of housing for each of these first two phases. One recent study has approached the problem from the standpoint of the needs as seen by the supervisors of training. Of course, the buildings must provide for pupil interests as well as training interests. The tendency seems to be to build separate buildings rather than to house the pupils in the general collegiate buildings.

REMEDIAL CASES IN ARITHMETIC
CASE 4[1]

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At the time this study was made E. B. (Case 4) was seven years old and was in the third grade. His parents are both very well educated and take unusual interest in E. B.'s success in school, his father to the extent of giving him special instruction in his number work. In addition, the parents have been able to give E. B. uncommon advantages in the home and through travel.

I. Extent of Study in Time

The study reported in this paper was made between April 10 and May 27, 1929, a period of about six weeks. During this time the writer met with E. B. for twenty or twenty-five minutes once each day of the school week.

II. Initial Status

Some indication of the level of E. B.'s arithmetic ability at the beginning of the study was obtained from the results of two tests. These were Form A of the Pittsburgh Arithmetic Scale and the Buswell-John Diagnostic Chart. The scores on these two tests are given in detail below as Table I.

[1] (This is the fourth and the last of the series of case studies in arithmetic which have appeared in the successive issues of the Peabody Journal of Education since September, 1929. Like the other articles, this one is devoted to a condensed account of what took place in the case of one child who was having difficulty in arithmetic. Because of space limitations it has been necessary to omit all except the essential parts of the voluminous notes which the author, Miss Whitson, took during the course of the study. In pages 100-107 of the September issue of this Journal, the reader will find a detailed statement concerning (1) the purpose of these reports; (2) the general procedure employed, together with a description of the tests used; and (3) the point of view and theory of teaching and learning which determined the nature of the remedial instruction. All four studies were made under the direction of Professor W. A. Brownell, of George Peabody College for Teachers, who is responsible also for the editing of the reports.

From the standpoint of exact quantitative appraisal, Case 4 is the least satisfactory of the four cases reported. The fact that E. B. was but seven years old and that he had had only the most rudimentary training in arithmetic makes it very difficult by means of standardized instruments to evaluate the level of his arithmetic ability both before and after the period of remedial instruction. Nevertheless, Miss Whitson presents convincing evidence that E. B. at the beginning of the study was utterly confused by what he had been taught in arithmetic and that remedial instruction based on meaning rather than on drill was able in a very short time markedly to reduce the extent of his confusion. The student of educational psychology who is inclined to see something magical in a high I. Q. will do well to note the difficulty encountered by this boy with an I. Q. of 130 or 140 in mastering the fundamentals of arithmetic. The teacher and administrator will find here a demonstration of the danger of too rapid promotion and too rapid instruction.)

TABLE I

ANALYSIS OF RESULTS, INITIAL TESTS, PITTSBURGH ARITHMETIC SCALE AND THE BUSWELL-JOHN DIAGNOSTIC CHART

Test	Addition		Subtraction		Multiplication		Division		Total	
	A	R	A	R	A	R	A	R	A	R
Pittsburgh Arithmetic Scale	4	2	4	1	2	1	2	2	12	6
Buswell-John Diagnostic Chart	36	24	16	7	6	4	14	0	72	35

The first line of Table I contains E. B.'s record on the Pittsburgh Arithmetic Scale. This line is read as follows: In addition, E. B. attempted to solve 4 examples and solved 2 of them correctly; in subtraction he attempted 4 and got 1 correct answer, and so on. His total score was 12 attempts and 6 right. The author of the test provides no norms, either for arithmetic age or for school grade, for a score as low as that made by E. B. According to the test norms a score of 9 is to be expected of the average child in grade 3B, and a score of 7 denotes an arithmetic age of 7. All that can be said for E. B., therefore, is that his arithmetic ability at the beginning of the study was below that of a typical seven-year-old child in grade 3.

Some evidence regarding E. B.'s disability in arithmetic is to be had by noting the types of example in the Pittsburgh Scale which he was unable to solve. He could not add 66 and 7, nor subtract 7 from 16, or 8 from 24, nor multiply 8 by 7, nor divide 54 by 9.

The Pittsburgh Scale is inadequate as a means of evaluating E. B.'s arithmetic ability, not only because of absence of norms but also because of a certain crudeness in the units of measurement.[1] That is to say, the successive examples in a given operation (as addition) increase in difficulty so rapidly that important differences in ability are not revealed. For example, a score of 6 is but 1 less than a score of 7 on this scale, but the true differences between these scores in terms of ability may be very great. An analysis has therefore been made of the results obtained by giving E. B. the various examples in the Buswell-John chart. The authors of this measuring instrument make no claim for the scientific scaling of the test items; their chart is for diagnosis only, and on this account they provide no age or grade norms. However, this test possesses certain advantages which make it especially valuable for the present purpose. Measurement begins with the simplest of demands;

[1] In view of these weaknesses the reader may well wonder why the Pittsburgh Scale was selected to measure initial status. There were two reasons. In the first place, this scale had been employed in the three other case studies in this series, and it seemed desirable to have comparable data for the four children. In the second place, it was planned to use the data obtained from the Pittsburgh Scale in connection with other problems than those attacked in these investigations. W. A. B.

the steps of increasing difficulty are very small; and there are enough examples in each operation to assure discrimination in scoring.

Line 2 of Table I shows E. B.'s scores in each of the operations. His best record was made in addition in which he solved correctly 24 of the 36 examples which he attempted. His ignorance of multiplication and division is clearly disclosed. The test as a whole contains 176 examples; of these, E. B. attempted to solve 72 and secured correct answers in about half of those attempted. Some of his errors are listed below:

12	17	19	86	3	13	3	1916
+ 2	+ 9	− 2	− 4	x 3	x 3	2/ 8	4/1684
24	116	7	83	12	42		

These errors, as well as his low gross score, portray E. B.'s confusion with some of the most elementary phases of arithmetic. They reveal little, however, concerning the nature and the causes of his weakness in arithmetic.

III. Diagnosis

A. Sources. Diagnostic data regarding Case 4 were secured from the following sources: (1) Observation of the boy's behavior; (2) school records; (3) results of the use of the Buswell-John Diagnostic chart; (4) conferences with the grade teacher; and (5) informal tests. In the following paragraphs there will be presented certain data which were secured from sources 1, 2 and 3. The data secured from sources 4 and 5 will be reported at more appropriate points later in the paper.

B. Detailed Data. 1. Observation of the boy's behavior. Observations during the course of the diagnostic and remedial instruction showed that E. B. lacked confidence in his own ability and was very easily discouraged. He had no apparent interest in numbers, could see no reason for making an effort, and frequently remarked: "There is no use for us to work on this. I won't be promoted anyway." On some occasions he showed a considerable amount of morbidity. He could not be held to one task very long, and during the course of a period of from 20 to 25 minutes the work had to be changed at intervals of from 6 to 8 minutes. Considerable motivation was necessary; new "tricks" had to be introduced constantly.

One never knew what to expect of E. B. One day he would begin quickly and complete a bit of work easily and readily. The next day the same type of work, involving the identical processes of the day before, would appear to be foreign to him and quite outside his power of accomplishment. Other days he seemed very enthusiastic and was proud when complimented upon his efforts.

2. School records. According to a group mental test given in the school E. B. has an I. Q. of 141.[1] His mental age was therefore 119 months, a stage

[1]On the Standford-Binet tests given in the fall of 1929, E. B. was found to have an I. Q. of 130. At the time of the arithmetic study reported in this paper his mental age was therefore about 109 months. W. A. B.

of development which theoretically at least justified his enrollment in grade 3 or even in grade 4 in spite of his low chronological age (7). However, in the Stanford Achievement Test as a whole and in the Haggerty Reading Test he rated far below the average for his grade. His teacher corroborated the evidence of these standardized tests that he was unable to do the work of grade 3 and explained his difficulty as due largely to lack of interest.

E. B.'s health record is good. He is about average in height and in weight for his age.

3. A careful diagnosis of Case 4's habits of work in dealing with numbers was made by means of the Buswell-John Diagnostic Chart. The following tabulation (Table 2) shows the specific habits which were faulty and the number of occasions when they were exhibited in the four fundamental operations. The symbols before the habits such as a 1, a 2, etc., refer to the list of habits on the chart.

TABLE II

TYPES AND FREQUENCIES OF INEFFECTIVE HABITS EMPLOYED BY E. B. IN THE FUNDAMENTAL OPERATIONS

Operation	Habit	Frequency
Addition	a 2. Counting	4
	a10. Grouped two or more numbers	3
	a12. Used wrong fundamental operation	1
	a15. Disregarded column position	4
Subtraction	s16. Ignored a digit	4
Multiplication	m 1. Errors in combinations	2
Division	d 8. Used wrong operation	3

The facts presented in Table II require some comment. It will be observed that few ineffective habits appeared in the case of subtraction, multiplication, and division. This is not to be interpreted to mean that E. B.'s habits of work in these operations were thoroughly adequate. Reference to Table I shows that he attempted to solve only 36 of the 130 examples in these operations combined. He therefore revealed few types of ineffective habits because he was quite incapable of dealing with these examples. The truer picture of his disability in arithmetic is that had from the data regarding his habits in addition. His perplexity in the examples, his lack of assurance, his inconsistencies, and his immature and inefficient procedures showed that he had no clear conceptions of numbers or their relations. It was evident that he needed instruction in the most elementary aspects of number.

IV. REMEDIAL INSTRUCTION

A. General Plan. The diagnostic work which has been described required the instructional period for three consecutive days. The remainder of the

six weeks was given over to remedial work and to testing. The whole emphasis of this remedial instruction was placed on improving the ways in which E. B. thought of numbers. Drill was postponed until he gave evidence of understanding thoroughly the requirements of any number situation and of having effective procedures for meeting these requirements. As will be observed in the description given below, in many cases the operation of this principle demanded that instruction begin with the simplest types of number experience.

In greater detail, the general plan of instruction consisted in the following scheme,—first, arousing E. B.'s interest in number work; second, helping him to develop some clear concepts of the numbers; third, showing him the disadvantages of the ineffective procedures which he was found to employ; fourth, leading him to substitute effective methods of work; fifth, providing ample opportunity for the use of these new methods; and sixth, checking continually to be sure that he was actually using the new methods. This instructional program required four main types of material,—first, that type in which the element of play was prominent, largely games, for the purpose of arousing interest; second, that which would lead most directly to an understanding of numbers and their relations, chiefly exercises in grouping objects, visualizing, etc.; third, that which permitted practice on the abstract processes and procedures developed in connection with the second type of material; and fourth, drill and test material.

B. Detailed Account of Remedial Instruction. In the paragraphs which follow attention is given more specifically to a detailed account of the instructional methods which were utilized to improve E. B.'s processes in dealing with addition. Only incidental mention is made of the efforts designed to improve his ability in the three other fundamental operations. That the special work in addition had important influence on his ability to subtract, multiply, and divide, will appear in the concluding section of the report. In the following discussion reference to Table 2 will enable the reader to identify the exact ineffective habit which is being considered.

1. Addition difficulties.

(a) Type of habit, a2, counting.

Step 1. In order to discover the nature of the situation in which E. B. resorted to counting in addition an analysis was made of his responses to the addition examples in the Buswell-John Chart. Informal tests were then devised to check the validity of the conclusions. These two sources showed that E. B. had his greatest difficulty and that he counted whenever he dealt with the combinations

5	6	8	6	9
3	7	5	2	7
—	—	—	—	—

The inconsistency of his answers for these combinations and the largeness of his errors, as well as the act of counting itself, suggested that the reason for

his counting was the fact that the numbers themselves meant little to him. The problem then became that of supplying this fundamental need. The methods and materials used to develop meaning for the combination 5 plus 3 will be described in the following paragraphs; they may be regarded as typical of the methods and materials employed in connection with the other combinations.

Step 2. The next step consisted in devising exercises which would illustrate and clarify the significance of numbers and their relationships as manifested in the combinations. The basic activity emphasized at this point in the instruction was that of grouping and of apprehending concrete materials. The exercises were varied from time to time to arouse and to hold his interest.

(a) The child closed his eyes while a group of three objects was arranged. At the word "open," the boy was allowed to glance at the group and was urged to state the number without counting if he could. If he could not, he counted. Then at the word "close," he again closed his eyes and a group of five objects was arranged. At the word "open," he again glanced at the objects and answered as quickly as possible. Then the three objects and the five objects were formed into a group of eight objects. In this way he was helped to see the meaning in 5 plus 3 equal 8. When he needed to count, he was reminded of the length of time wasted in this procedure and was encouraged to remember the group or to "take a good picture" of it, a phrase which seemed to be an impressive one for the seven-year-old boy.

(b) The child was then directed to arrange objects himself in groups of five, then three, then eight. He was given much experience at this point.

(c) At other times E. B. was asked to close his eyes and to listen to taps of a pencil. These taps were given in groups of three, then of five, then of eight. By these exercises appeal was made through both the sense of sight and the sense of hearing.

Step 3. Games were used to motivate and to provide practice on the combinations. Two of the games which were found to be helpful for this purpose are described.

(a) "Tit-tat-toe." This game was played with a wheel drawn in such a manner that part of the combinations on which practice was needed (as 5 or 3) appeared around the circumference and another such number appeared with a plus-sign at the center. E. B. tapped around the circle with eyes closed as he repeated this rhyme:

"Tit-tat-toe, round I go,
If I miss, I stop on this."

He was then required to combine the number in the center of the circle with the number upon which the pencil rested when he finished repeating the rhyme.

(b) "Fishing" game. This game was based on a picture of children fishing. The children in the picture were named by Case 4; he used the names of himself and his favorite playmates. The fish were numbered (as 5 and 3), the same numbers being used which had been used in the above named exercises. Each child was given several turns at "fishing." Case 4 named the score made by each in turn. At the end of the time, the score was added and the winner determined.

Step 4. E. B. was directed to do all his work aloud. In this way it was possible for the investigator to detect any errors and any undue hesitancy in his responses. Errors were corrected immediately. E. B.'s processes in securing his answers were continually under observation and were thus subject to constant improvement.

(b) Type of habit, a10, grouped two or more numbers.

3 8
5 7
8 9
2 7
— —

It may be well to illustrate the nature of E. B.'s processes in this connection. In adding the first of the two examples at the left he said, "8 and 5 are 13, and 3 are 16, and 2 more are 19;" in adding the second, "8 and 9 are 17; 7 and 7 are 14"; hesitation; repetition of the foregoing procedures, and finally, "17 and 14 are 31."

Step 1. The first step was to find out why E. B. skipped about within the column. When asked his reason, he said, "because then I can put the easy ones together first."

Step 2. It then became necessary to convince him that this procedure was ineffective and costly. In as much as he usually omitted altogether one or more digits in the longer columns and thus secured incorrect answers, it was not difficult to establish in his mind the fact that his errors were the result of his failure to add the consecutive numbers as he came to them in the column.

3
1
2
3
5
—

Step 3. In order to facilitate the breaking of the old habits and the establishment of the new, the following device was tried with considerable success: Columns of figures were arranged in such a way that numbers forming combinations with which he was known to be familiar were placed beside each other at the bottom of the column and above these were placed other numbers which could be easily added to these. For example, after 3 plus 5 had become fixed as an automatic association, is was placed at the bottom of a column, as at the left. Above it were placed such numbers as 2 and 3.

Step 4. Once E. B. had become accustomed to a regular procedure in the column, he was required always to use it whether or not the numbers to be added were as conveniently arranged as in Step 3.

Step 5. All E. B.'s work in connection with habit a10, as in case of his work with other ineffective habits, was oral, and on the basis of his announced processes a careful check was maintained on the processes which he was employing.

(c) Type of habit, a12, used wrong fundamental operation.

During the course of the diagnostic testing it became apparent that E. B. was unable clearly to distinguish between the various fundamental operations. This was true, not only as between addition and multiplication, but also as between others of the operations.

Step 1. An attempt was made to determine why E. B. confused multiplication and addition. Nothing definite could be found out. He seemed to be completely bewildered, and at times to decide which operation he should employ largely as a matter of chance. The explanation seemed to lie in the possibility that he had been required to take up subtraction, multiplication, and division before he had fully accommodated himself to the special demands of addition.

Step 2. In accordance with this hypothesis two types of material were prepared. The first called for visualization and the grouping of objects. For example, to show him that 3×2 is the same as $2 + 2 + 2$, he was asked to place objects in three groups of two objects each. The relationship between addition and multiplication was explained, as well as their difference. Then later, when he was given the example 3×212, he was given $212 + 212 + 212$ at the same time. At the end of one day's lesson involving examples of this type he remarked, "Oh! I see—multiply and add are just the same. It is a good way to prove examples, isn't it? Multiplication is just shorter than addition."

Step 3. Whenever he later became confused between addition and multiplication he was told to think his way out of the difficulty himself.

(d) Type of habit a15, disregarded column position.

This ineffective habit appeared in four of the examples in the Buswell-John chart. E. B.'s solutions are listed below:

13	19	17	53
5	2	9	8
68	41	116	61

Step 1. An analysis of the errors shows that in each case E. B. added the single digit in the second addend to both digits in the first addend. When questioned as to his processes, he showed that the unevenness of the addends confused him.

Step 2. His erroneous procedure was quickly eliminated when it had been located, by the substitution of the correct procedure and by supervised practice in it.

2. Subtraction difficulties.

(e) Type of habit, s16, ignored a digit.

E. B.'s solutions for four of the subtraction examples in the Buswell-John chart are given below:

19	15	58	79
2	4	4	3
7	1	4	6

The nature of his difficulty was clear,—he did not know what to do with the first digit in the minuend. Remedial instruction consisted merely in establishing the correct habit.

3. Multiplication and division difficulties.

In the remedial instruction which was devoted to these two operations special attention was given to developing a clear notion concerning the nature of the number relationships involved. Multiplication and division combinations were presented and studied together. Thus when the multiplication example 3×13 was given E. B., the corresponding division fact, $39 \div 3$, was taken up. At the end of one lesson of this type, E. B. said: "Well, say! If you can multiply you can divide, too. It's easy."

V. Evidences of Improvement from Instruction

That the six weeks devoted to remedial instruction produced marked improvement will be evident from the data summarized in the following tables. Table III contains comparative data on Form A of the Pittsburgh Arithmetic Scale given before and after the remedial instruction. This table is read,—In addition E. B. on the initial test attempted 4 examples and on the end test, 4; there was therefore no gain from the instruction; he solved 2 of the 4 examples attempted correctly on the initial test, and all 4 on the end test; he therefore made a gain of 2 in his addition score. The last line of the table shows a net loss of 2 examples attempted and a net gain of 3 in his score of rights. If his arithmetic age may be assumed to have been six years before the remedial work, the six weeks' individual instruction may be said to have resulted in a gain of a year and three months in arithmetic age.

TABLE III.

Analysis of Initial and End Tests to Show Improvement—Pittsburgh Arithmetic Scale

Type of Operation	Attempts			Rights		
	Initial Test	End Test	Gain	Initial Test	End Test	Gain
Addition	4	4	0	2	4	2
Subtraction	4	3	−1	1	3	2
Multiplication	2	1	−1	1	1	0
Division	2	2	0	2	1	−1
Total	12	10	−2	6	9	3

The corresponding data from the two applications of the Buswell-John chart, before and after the special training, reveal even more strikingly the improvement in E. B.'s arithmetic ability. Table IV is read in the same man-

ner as Table III. The gross gains show an increase of 26 in the number of examples attempted and an increase of 38 in the number correctly solved.

TABLE IV.

ANALYSIS OF INITIAL AND END TESTS TO SHOW IMPROVEMENT—BUSWELL-JOHN CHART

Type of Operation	ATTEMPTS			RIGHTS		
	Initial Test	End Test	Gain	Initial Test	End Test	Gain
Addition	36	32	−4	24	26	2
Subtraction	16	22	6	7	18	11
Multiplication	6	28	22	4	20	16
Division	14	16	2	0	9	9
Total	72	98	26	35	73	38

A comparison of the methods of work used by E. B. before and after remedial instruction confirms the evidence already presented concerning the improvements made in his arithmetic ability. Such a comparison is provided in tables V and VI.

Table V is read: On the first administration of the Buswell-John chart, E. B. showed that he used four types of ineffective habits in addition (see Table II); on the second administration of the same chart after the remedial instruction he still employed one of these habits; his improvement therefore involved the removal of three of these habits. The rest of the table is read in a similar manner. According to the last line of the table, of the seven faulty procedures characteristic of E. B.'s arithmetic at the beginning of the period of training, five were done away with.

TABLE V.

IMPROVEMENT AS SHOWN BY THE ELIMINATION OF INEFFECTIVE HABITS—BUSWELL-JOHN CHART

Operation	NUMBER OF INEFFECTIVE HABITS		
	Before Instruction	After Instruction	Eliminated
Addition	4	1	3
Subtraction	1	0	1
Multiplication	1	0	1
Division	1	1	0
Total	7	2	5

Table VI presents the data in greater detail. This table is read: At the beginning of the period of the study E. B. used ineffective habit a2 four times; after the special training he used it three times, and so on. The last line of the table shows that E. B. used his ineffective habits a total of four times after the instruction as opposed to 21 times before the instruction. It is interesting to note that the short period of this instruction had comparatively little influence in breaking down his habit of counting in addition (a2).

TABLE VI.

USE OF INEFFECTIVE HABITS BEFORE AND AFTER REMEDIAL INSTRUCTION—BUSWELL-JOHN DIAGNOSTIC CHART

Ineffective Habit	FREQUENCY OF USE	
	Before Remedial Instruction	After Remedial Instruction
a 2	4	3
a10	3	0
a12	1	0
a15	4	0
s16	4	0
m 1	2	0
d 8	3	1
Total	21	4

EDITORIALS

GRADUATE INSTRUCTION: THREE VIEWPOINTS

I.

Graduate study in preparation for teaching may not be as different from graduate study for another profession as we are accustomed to think. There should doubtless be some difference and it is just that difference which becomes all important. Frequently we find advocates for junking the similarity, but the similarity constitutes the traditional foundation of solid experience and is therefore not lightly to be discarded. The old slogan of the academic tradition for general culture was that all a teacher needs to know is his subject. The new slogan of the educationists is that the main thing the teacher needs to know is the proper way to impart instruction. The common saying among the thoughtful is that both are wrong. Perhaps it is truer to say that, in essential principle, both are right.

Our physical bodies condition the mode of life, but our minds interpret the significance of it or at least help us in the attempt to interpret. The only way we have of being rational, of understanding the material universe or ourselves is through our minds. Hence the great physicists and chemists declare themselves helpless to interpret man and his unseen relations by the methods of physical science. It is only the mind that knows or has any glimpse of knowing matter and itself. Eddington in his Swarthmore lecture last year was emphatic on this point:

"In comparing the certainty of things spiritual and things temporal, let us not forget this: Mind is the first and most direct thing in our experience; all else is remote inference."

With this fundamental considered we can pass to the studies required in preparation for the profession of teaching. Broadly distinguished the two fields of study are those dealing with the physical sciences and those dealing with human achievements. Science as accurate and organized knowledge may be either in the realm of nature or in the thinking of man. In either field we must do our utmost to be scientific.

The tendency to classify the science and art of teaching as a natural science has seemingly become almost a resolute attempt. Shall we settle the procedures of education in the schools by physical measurements in the laboratory, or shall we pay equal heed to our inner selves and the wide sweep of our historical experience? Schools undertake through studies to insure progress in material and in spiritual things. We must welcome the quantitative studies of education as the greatest line of advance in the past century. It has followed in the wake of the physical sciences and recognizes the reality of bodily

life intimately bound up with mental life. The danger lies in allowing ourselves to rely on the material side for interpretation.

Humanities as a group of studies have grown out of our historical experience and our energy of expression in art and literature. They connect with the institutions established for human service: the family, the home, the church, the school, the state. Physical sciences have contributed their method of quantitative accuracy. Life has become more objective. Rightly the demand is for objective data in every possible variety. But raw data quantitatively accumulated have no significance until qualitatively interpreted and related to experience by subjective thinking. Material, objective things and subjective, spiritual things are still the two great realities.

But the school puts all studies to human service, physical sciences as well as those traditionally called humanities. The distinction between these two groups begins to fade away when physics and chemistry and biology are applied to increasing the comforts and efficiency of life as well as suggesting the physical lessons for higher phases of conduct. The science and art of education, using in a magnificent scheme the whole range of organized knowledge and of spiritual expression as instruments for unending progress, deserves to be considered the guiding star among the humanities.

Based on this analysis the subjects in a graduate school of education include the higher phases of its own science and all the other highly developed subjects universally taught. Professional schools need for physicians chiefly medicine and the biological sciences; for lawyers, chiefly jurisprudence and historical studies; for engineers, mainly technology and the physical sciences. But for teachers the demand includes the whole range of the material sciences and the humanities, which shall be shaped into service for mankind. Pedagogical theorizing must be integrated with academic subjects if any rational use of objective data is to be demonstrated.

Specifications of program in the larger aspects call for exacting scholarship: (1) Graduate students of education must aspire to the highest standards of graduate study found anywhere in the world. No apologies must be made for peculiar needs, no confession of lower aims, no admission of superficial knowledge rather than complete mastery. (2) Graduate students, whether in preparation for teachers or investigators or administrators, should choose professors and departments of study, so as to insure breadth by pedagogical insight, by the accuracy of physical science, by the historical conception of an aspiring, achieving humanity. (3) Graduate students must be more consciously responsible for the failure of teacher training, which has come largely from excessive theorizing in pedagogical scholarship quite as much as lack of academic scholarship.

Specifications for facilities for graduate study, again the larger aspects only, call for a scholarly staff of graduate instructors who are specialists in all the fields named above as indispensable and who have the pedagogical equipment

and attitude; a library of 150,000 or 200,000 volumes carefully selected and fully staffed for service. Here we come to the material need of money, which at its worst is filthy lucre, but which, put to human service, is transmuted into spiritual values. C. E. L.

II.

Does graduate work mean the level of advancement or does the term connote a certain type of work? Graduate work formerly was called post-graduate and then its name certainly signified a level of achievement. If the older definition is accepted there is discovered at once a number of easily recognized types of graduate work; while on the other hand if the type of work and not the degree of advancement becomes the distinguishing characteristic, graduate work is restricted to small parts of these several specializations, usually those portions of each specialization which are engaged in research. Perhaps some specific illustrations will make clearer the situation it is desired to present.

To enter certain schools of medicine a bachelor's degree is a prerequisite. Now in the work required of the student for the professional degree of doctor of medicine there is little that is distinctively research. Such research work when it comes is usually post-professional in that it comes after the professional degree has been obtained. The question then comes, is the medical student in such a medical college who is working on his professional degree of M.D., a graduate student and is his work graduate work?

In much the same way the work of the standard seminary or school of law is professional or it is graduate according to the definition accepted for graduate.

In schools of education and in graduate teachers colleges the definition on the basis of level has been accepted and the tendency now is to place most of the professional work on the post-graduate level. Does this mean that it is research? One has only to observe the class recitations, study the catalogue description of courses or look for the resulting products to decide that in a large part the professional work for teachers is not *research* in the way that word has just been defined. Most of it is in fact instruction, with a professional-vocational slant just as it is in the other professions of medicine and law.

The next question to arise inquires if research deserves to be recognized as being on a higher level than instruction. Is the relationship between these two longitudinal or is it a relation which is just possibly a parallelism? The purposes of the two phases of work, instruction and research, are distinctively different. *Research* aims to add to the sum of existing knowledge; *Instruction* aims to teach knowledge that already exists. Producing *new* and disseminating *old,* almost describes the two processes. Shall the one worker say, *I am*

the researcher, and then patronize all other types of workers? Shall the Public, on the other hand, decide that here are two workers on two very different and very fundamental human needs? They are simply workers of different types. All the workers of one group are not above all of the workers of the other group. The brilliant research worker is above the mediocre research worker and the commonplace teacher. Similarly, the *great* teacher is above the commonplace teacher and is just as truly above the mediocre researcher.

It is a mistake to believe that all research is contributory to human knowledge. Much of it as it now appears in graduate schools is elementary drill in learning the skills of research process. While still on that level it probably isn't even so high in the scale of traditional scholarship as is the teaching of the results of finished researches.

Says Johnson, in a paper of the Geographic Prospect, published in the Annals of American Geographers (1929), leading a vigorous assault on the teaching duties of the college and university professor: "The historic mission of the university was to advance knowledge, not to teach. University professors have come to believe that they are paid for their teaching and that research is something to be done after the regular work is done."

Until research, meaning contributory research, has been recognized as a distinct specialization separating it from another specialization, *teaching*, there is no reason to look upon it as a separate level of work superior to teaching. So long as it remains on its present basis and is operated in its present manner there is no serious reason for considering it the distinguishing characteristic of our graduate schools. Historically it may have been so but changing conditions, greatly increased quantities of knowledge and greatly increased numbers of students, have made study and teaching the major responsibilities of college and university teachers. Ph.

III.

The development of graduate instruction is one of the trends in American Education. Standardizing agencies insist that graduate degrees be held by teachers filling certain types of positions. Institutions of higher learning are directing their attention to meet these requirements as well as to secure higher standards of scholarship and thereby secure better teaching.

In the desire to meet modern needs, let us not overlook the main ideal, namely, that of higher standards of scholarship. Degrees are after all of secondary importance; the attainment, that is the amount of intellectual development and growth, is of first importance. Mastery of definitely organized fields of knowledge becomes important. Scholarship is represented by membership in the group who advance the frontiers of learning or who contribute to the organization of such knowledge.

In order to achieve such membership it is necessary to have knowledge, definitely organized and accumulated facts relating to the field in which mastery is sought. Many of these previously discovered facts are of great value and cannot be ignored. In addition to this knowledge the graduate student must have at his command, or develop the techniques for finding new facts. Research is necessary for membership in the group of those who foster scholarship. An essential part of research is the ability to select problems for investigation. The graduate student who can discover no problem to be investigated usually lacks mastery of the field in which he expects to work. Additional intensive study will suggest problems. A knowledge of the literature of the field will enable him to see what has been done and perhaps will suggest what needs to be done. The student who feels that all problems have been solved usually lacks mastery of the field.

Careful research instills respect for scholarship. Doing research rather than learning how to do it is essential. When the interest in the chosen field leads to a desire for further investigation of important problems results are likely to come forth, and when degrees are lost sight of they are most readily obtained. They should come as the reward of careful research and through scholarship. In the pursuit of degrees "he must lose his life who would gain it."

F. P. W.

NO CONGESTION

There never has been, nor is there now, an excess of good teachers. Perhaps there never will be. Reports from various states of a surplus are concerned merely with those certificated to teach. There are entirely too many "certificates"—and too few teachers. It is true that the "certificates" sometimes crowd the teachers out of employment, but that phase of the difficulty will tend to become less and less acute. There are now quite obvious indications of the growing tendency of boards and superintendents to refuse to yield to the old associations, and partisanships. Those whose certificates are their main professional asset will experience intense embarrassment as superintendents and presidents become more intelligently critical. By the same token teachers will find more dignity and profit in their work.

The apparent congestion should serve to give considerable pause to those about to dedicate their lives to teaching. Teaching is no longer the easiest vocational refuge, no longer the haven of those who have failed elsewhere. Those who enter must have qualities which transcend mere certificate values.

A. S. C.

THE NEW BOOKS ON OUR SHELF

[The reviews, most of them signed, are by appropriate members of the Faculty of GEORGE PEABODY COLLEGE FOR TEACHERS. Our limited space necessitates concise notices—brief, pointed, thoughtful comments, without elaboration.]

Trends and Needs of Home Management. By HELEN ELIZABETH JUDY. New York: Bureau of Publications, Teachers College, Columbia University, 1929. Pp. viii + 128. Price $1.50.

A valuable survey of the teaching of Home Management in colleges and universities. It sets forth clearly present day aims, objectives, content and method of presentation and suggests policies as bases for future curriculum construction. C. A. D.

The Teaching Unit. By DOUGLAS WAPLES *and* CHARLES A. STONE. New York: D. Appleton & Company, 1929. Pp. x + 205. Price $2.00.

A distinctly creditable effort. The authors have brought to bear a wealth of research techniques on the general problem of how to teach the unit of directed numbers in algebra. Special mention should be made of the completeness of the description regarding the steps taken and the procedures employed in the study. The authors express the hope that classroom teachers in general will undertake similar investigations of instructional problems, utilizing so far as applicable the general plan here presented. In this hope that authors appear to be unduly optimistic as to the ability and interest of teachers and overly modest as to their own efforts. With the exception of the one chapter on "Computational Difficulties," the investigation as a whole is most praiseworthy. W. A. B.

PROGRESSIVE EDUCATION

The Monthly Magazine for Modern Educators and Parents

Contents for May

Tenth Annual Conference Number

Stanwood Cobb—President's Message.
Burton P. Fowler—Incoming President's Message.
George A. Coe—Character as End and as Process.
Paul V. West—Some Pros and Cons of Handwriting Instruction.
Roger W. Holmes—Aristotle and Aristotelianism in Education.
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New Pocket Classics. New York: The Macmillan Company, 1929.

One can hardly believe that these books, with their bright red bindings and beautiful print, can be so cheap. A rare bargain. B. R.

Corrective Arithmetic. Vol. II. By WORTH J. OSBURN. Boston: Houghton Mifflin Company, 1929. Pp vi + 279.

The pronounced success of the first volume of "Corrective Arithmetic" and its great influence on both research and instruction in arithmetic led the author to prepare this second volume, which is concerned chiefly with the arithmetic usually taught in grades 5 and above. The first part of the book is devoted to a vigorous presentation of the methodology, and the second part presents new data obtained very largely from the anaylsis of textbooks. The author has modified considerably his views of the role of transfer of training,—or at least suggests such a change. It is impossible here to mention even briefly the large number of ideas presented regarding methods of teaching or to evaluate the significance of the research data. One must read the book himself to appreciate it. However, it may be safe to venture the prophecy that this volume will not be as enthusiastically received as was the first. W. A. B.

A Comparative Study of Responses of Children of Different Nationalities and Environments on Intelligence and Achievement Tests. By ADELIN WHITE SCOTT. New York: Bureau of Publications, Teachers College, 1929. Pp. 32.

This is a routine statistical analysis of certain data collected, for the most part, in the course of the Texas state educational survey. Scores on the National Intelligence Test and on parts of the Stanford Achievement Test are compared for different groups of children who varied with respect to nationality and environment. The study contributes no new data of importance, devises no new techniques, and raises no new problems. Rather, its findings merely confirm the unsatisfactory status of our knowledge regarding the questions selected for study. W. A. B.

RIVERSIDE TEXTBOOKS IN EDUCATION latest issues

A Short History of Mathematics

By **VERA SANFORD.** The author has had constantly in mind the interests of those who are planning to teach in junior or senior high school. The story of each of the branches of mathematics—arithmetic, algebra, trigonometry, and the rest, is told from the beginning. A chapter is devoted to the history of commercial mathematics. The book has many unusual illustrations, facsimile pages from rare old mathematical books, photographs of ancient instruments, and portraits of early mathematicians. Dr. Sanford is Assistant Professor of Mathematics, School of Education, Western Reserve University. $3.25.

Modern Methods in Written Examinations

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School Health Program from Many Lands. Report of the Health Section of the World Federation of Education Associations. New York: American Child Health Association, 1928. Pp. 209. Price 50c.

This report is divided into five general groups of topics, to which is added a worthwhile appendix. Group I has for its general topic: The training of leaders in the field of school health; Group II: Methods of Health Education in the elementary school; Group III: A continuation of II; Group IV: The school health program; Group V: School health activities of national health agencies, and educational organizations. As might be expected from the title, help is here presented from many nations by those competent to speak. Health education is a world-wide activity and this report can be of distinct service to all teachers, especially to those devoting their main energies to health teaching. F. B. D.

Le Pays des Trente-six Mille Volontes, par ANDRE MAUROIS. Edited by HARRY KURZ. New York: D. Appleton and Company, 1929. Pp. vii + 148.

An excellent text for early reading. It contains about 9,418 running words. The total vocabulary consists of 1,389 words, of which all but 266 are found in the first 3,000 of the 6,067 words listed in G. E. Vander Beke's *French Word Book.* Of these 266 more difficult words, 155 are found in the second half of Vander Beke's list; thus only 111 unlisted words occur in the entire vocabulary.

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Attitudes as Factors of Scholastic Success. By M. E. HERRIOTT. Urbana: University of Illinois Press, Bulletin No. 47, 1929. Pp. 72.

This bulletin summarizes previous studies and reports one made by the author. It is an important contribution in a most difficult field. S. C. G.

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Fundamentals of Educational Psychology. By IRA MORRIS GAST *and* HARLEY CLAY SKINNER. New York: Benj. H. Sanborn & Co., 1929. Pp. xiii + 354.

This text has a number of points of value. It treats the major psychological problems as they are related to school work. It gives greater emphasis to social psychology as applied to teaching than any text on the market. The book is scientific yet not too technical. The topics selected for treatment are especially relevant for teaching. S. C. G.

The Nature and Meaning of Teaching. By RALPH F. STREBEL *and* GROVER C. MOREHART. New York: McGraw-Hill Book Company, Inc., 1929. Pp. xix + 273.

This is an excellent text for beginners in education. The chapter on Essential Principles of Effective Study is especially good. Unfortunately the chapter on Mechanisms and Processes of Learning is not based on the newer studies in the field. The book as a whole is one of the best of the many which have been written in recent years for the first course in education. S. C. G.

Words. Second Revised Edition. By RUPERT P. LARELLE *and* CHARLES W. KITT. New York: The Gregg Publishing Company, 1929. Pp. 192. Price 44c.

This text is concerned with the words used in business practices. S. C. G.

Conflicting Psychologies of Learning. By BOYD HENRY BODE. Boston: D. C. Heath & Co., 1929. Pp. v + 305.

The reviewer regards this as one of the most significant contributions in the field of education during the past year. The value of the book lies in the fact that it critically examines existing theories of learning and points the way from the narrow, mechanical conception of education based on the Situation-Bond-Response theory which has been dominant for the last decade. S. C. G.

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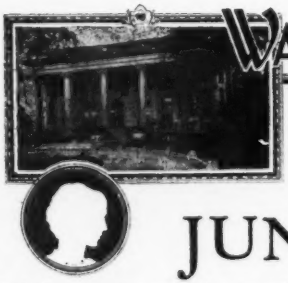

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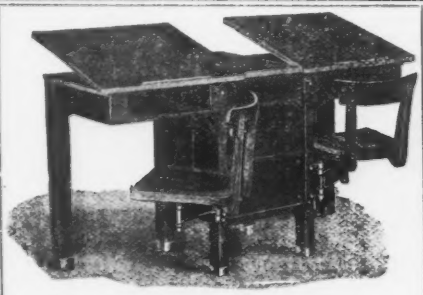

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